EVALUATION OF CONTINUING MEDICAL EDUCATION FOR GENERAL PRACTITIONERS IN THE WEST OF SCOTLAND

Moya Helen Kelly M.B.Ch.B., M.R.C.G.P.

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The University of Glasgow

Department of General Practice

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ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

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SUMMARY

The 1990 Contract changes handed the choice of education to the consumer and changed the structure of postgraduate education without addressing quality. The market place ethos has encouraged the proliferation of courses especially from the pharmaceutical industry.

The creation of a new financial incentive for continuing medical education (C.M.E.) has certainly encouraged attendance but below the glossy exterior of this learning package lurks many of the long-standing problems of education.

General practitioners had strong negative feelings about the imposition of the contract changes. Although many had participated at C.M.E. courses, lecture style meetings remained popular. C.M.E. is now competing for time in a doctor's busy life and not only must the educational activity be worthwhile but the G.P.'s certainly made it clear that the timing of courses was important. Very few doctors had experience in practice based learning or distance learning. This was disappointing as this type of learning would be valuable for the single handed or rural doctors. Planning of future programmes should take these needs and preferences in timing into account. Course providers, as a group, have taken up their role purely as a result of their enthusiasm to do so. They tend to organise meetings on a topic which is of interest to them and at a time suitable to them rather than the consumer. Many of the meetings are in lecture style and use hospital speakers which is not the best combination to enhance learning.

Providers need to have their contribution recognised with proper funding, training, protected time and secretarial back up.

In its current form, attendance at courses does increase knowledge in the majority of attenders - but it could be better. Knowledge gain is greatest in disease management courses and in small group work. The initial level of an individual's knowledge may determine the potential value of that course to the doctor and therefore some form of pre course assessment may prove valuable. The level of knowledge gained at courses could be even higher if more active participation at meetings was encouraged. Doctors appeared to be more knowledgeable in health promotion and service management than disease management and therefore less value may be accrued from attendance at these types of meetings. Doubt must be cast on the value of dividing education into categories.

Learning at courses is a very complex issue but it did appear to stimulate doctors to think about change but the influence was not great. Many of the intentions immediately post course fell by the wayside and never came to fruition. Doctors were most likely to change if the topics were relevant to them and this should be taken into account when planning and accrediting meetings. The changes found such as prescribing, advice to patients and referrals all impinged on patient care and therefore, if delivered properly, C.M.E. does have the potential to alter the quality of patient care.

Few barriers to change were found. Many practices had decision making processes in place but despite this practice changes were few and were most likely to occur if linked in some way to practice income.

If doctors are to be handed the responsibility to choose their education then they need to receive guidance in identifying their educational needs, assistance in developing a personal programme and direction in finding the most suitable activity which will be a catalyst for change and alter patient care.

As it stands, education is haphazard and flawed. The Government has put a great deal of money into the new educational arrangements on the basis that it will ultimately improve patient care but evidence so far would suggest that they are getting a poor return on their investment.

It would be more sensible to direct funds into improving the provision of education so that it is a more worthwhile and enjoyable feature of a doctor's personal and professional development.

The West of Scotland is a large region with doctors working in a wide variety of circumstances. Many of the findings and the solutions found here would be applicable to other areas in the United Kingdom.

ABSTRACT

This study was carried out in three parts.

Phase 1

The aim of this phase was to gather background information on all those participating in C.M.E. using three structured questionnaires.

(i) Continuing Medical Education Questionnaire which looked at the views and needs of the G.P. consumer.

(ii) Course Provider's Questionnaire.

(iii) Non-Claimer's Questionnaire.

Phase 2

This phase dealt with effectiveness of education by measuring change in knowledge due to attendance at a meeting by using pre and post course M.C.Q.'s. Information was also gathered on motivation and reasons for attendance as well as intention to change either personally or at a practice level immediately post course.

Phase 3

This follow up phase was carried out 6-8 weeks after the meeting to identify if any of the intended changes were actually put into action.

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DECLARATION

I hereby declare that the contents of this thesis represent work undertaken entirely by myself, except insofar as is detailed in the acknowledgements section.

MOYA KELLY

CHAPTER 1

CHAPTER 1

HISTORICAL BACKGROUND TO CONTINUING MEDICAL EDUCATION

"If the licence to practice meant the completion of his education how sad it would be for a Practitioner, how distressing to his patients."
Osler, 1900

Since the turn of the century, it has been recognised that education is a life-long process and in no area is this more relevant than in medicine where technological advances have altered diagnostic methods and treatment thus making it essential for doctors to keep up-to-date so that they can continue to provide good quality care to their patients.

As Osler (1900), has pointed out postgraduate study has always been a characteristic feature of our profession and yet it has taken many years to evolve to its current form and in the last few years it has abruptly changed into a growth industry.

Postgraduate courses were available in various parts of the United Kingdom as early as the beginning of the century. In 1906, in Edinburgh, a Postgraduate Education Committee was set up jointly between the University's Medical Faculty and the two Royal Colleges and a similar Committee was set up two years later in Glasgow in an attempt to co-ordinate this activity.

There was little change in this arrangement until 1961 when as a result of articulate pressure for appropriate in-service education for General Practitioners, a meeting was held on Postgraduate Medical Education at Christchurch, Oxford. This Conference, convened by the Nuffield Provincial Hospitals Trust, established the foundation for the present day structure.

The effect of this Conference was to disseminate the development of Postgraduate Medicine to the regions and districts of the National Health Service. The aims of the Committee were to improve the co-ordination of the provision of education by setting up Regional Postgraduate Education Committees comprising of members of the profession, the Universities and the Health Authorities who could, along with the Postgraduate Deans, form a link between the Central Councils and the district based Clinical Tutors responsible for organising programmes at Postgraduate Medical Centres attached to Hospitals.

In 1968, The Royal Commission on Medical Education reported that education was often inadequately planned and co-ordinated and as a result of this Postgraduate Councils for England and Wales, one for Scotland and one for Northern Ireland were established in 1970, thus recognising the differences in tradition and administration in the different parts of the United Kingdom. These were designed as advisory bodies with no control over educational standards and their structure remains similar today. It was at this time that the need for Advisory Groups of General Practitioners was recognised and Regional Advisers in General Practice were appointed to the staff of the Regional Postgraduate Dean to advise on the development of vocational training

and continuing education. Faced with the mammoth task of implementing vocational training the organisation of education became a casualty of lack of time. The rationale behind this organisational structure for education was based on three assumptions. The first, was an assumption that in general practice "service" and "education" were two distinct entities and were not closely linked. Secondly, that the needs of vocational training and continuing education were one and the same and could be served by a single body and thirdly, it assumed that continuing education was best placed in the hands of Hospital Consultants.

Despite these obvious flaws, the number of educational activities to established General Practitioners flourished in the early 1970's and although there was quantity little attention was paid to quality control. These activities were funded by central government through Postgraduate Deans who were the budget holders and were widely known as Section 63 activities so named because they were funded by the Department of Health and Society Security under Section 63 of the 1968 Health Services and Public Health Act. Attendances at these meetings were linked to seniority payments and while this financial incentive was in place the number of attenders continued to rise. However, at the end of the 1970's the monetary link was severed and this had a major impact on attendance with a small number of General Practitioners attending a large number of meetings.

It was at this time that discontent was expressed about the quality, content and relevance of the education provided for General Practitioners and questions were raised as to its cost effectiveness. Wood and Byrne in 1980 reported that continuing education was

flawed in three ways. Firstly, it was felt that the selection of priority areas of continuing medical education was greatly unsystematic and rarely arose from joint discussion between the consumers, the educators and the managers. Secondly, there was too much emphasis on imparting information with the use of lectures and too little on directly improving performance and the use of learning participative methods. Thirdly, very little education was being carried out. It was therefore recommended that the national bodies concerned should work together to form a strategy for development and strengthen organisational structure and attempt to develop performance review or audit as a form of continuing education. In the wake of this, in the same year the Leeuwenhorst European Working Party produced a statement of aims for continuing education in general practice and identified the importance of recognising a doctor's individual needs. These aims were as follows:-

1. To review knowledge, skills and attitudes already acquired in undergraduate and vocational training, eliminating those which were obsolete, while retaining those which were still valuable.

2. To help the doctor to discover his deficiences and to deal with the difficulties which he already recognised in his own work, by sharing experiences with his colleagues both medical and non-medical.

3. To help the doctor to recognise and apply new evidence and ideas, using the experience of general practice as a basis for their evaluation and application. By giving as well as receiving training in this way, he would be enabled to develop new competences and learn new roles effectively.

4. To help the doctor's capacity to think creatively and to appraise his own work critically, by means of education and research activities.

In June of the same year the RCGP published an Occasional Paper on Section 63 activities and recommended that the limited effectiveness and efficiency of Section 63 activities should be recognised, that the role and the responsibilities be defined with specific guidelines set down for the essential features of these activities, and that educational support services should be available on a regional basis and more attention should be given to the recruitment, training, motivation and use of General Practitioners in the design, conduct and evaluation of Section 63 activities. Despite these laudable objectives from two respected bodies there was little change in the provision of education for General Practitioners. Following an overspend in the early 1980's the organisational arrangements for Section 63 were reviewed by the Department of Health and Social Security. The Regional General Practice Sub-Committees were made responsible for setting the policy framework for continuing medical education under the supervision of the Regional Postgraduate Medical Committee and the Postgraduate Dean. The Regional Advisers implemented this policy and were given the task of holding the budget for these activities.

As the complexity of medical practice increased it became apparent that Postgraduate Education needed to be carefully regulated to meet the rapidly changing needs of the consumer and the Royal Colleges and their Faculties accepted this challenge. In particular, the RCGP did much to raise the awareness of General Practitioners about the need for performance review. In 1983 they launched their "quality initiative"

and then in 1985 they followed this up by publishing Quality in General Practice which emphasised the need to establish standards of good practice and also to measure the extent to which General Practitioners managed to achieve these gold standards.

Despite laying down these criteria the organisation of C.M.E. remained haphazard and in 1987 a review of the Scottish Council for Postgraduate Medical Education was undertaken by the Scottish Home and Health Department which confirmed the need for a co-ordinating body for Postgraduate Medical Education, representatives of the Colleges and their Faculties, University Medical Schools and the National Health Service authorities. The principle recommendations were that membership of a Council should be reduced in size to improve its efficiency and effectiveness and that relationships with the Regional Committees should be improved. The structure of the Council has changed little since then and it now has a total membership of 20 with representation of all bodies previously mentioned including the GMC and the five Regional Committees of Aberdeen, Dundee, Edinburgh, Glasgow and Inverness and received funding of just over 2 million pounds in the financial year 1990/91. The task of this Council is mainly one of co-ordination. The training of individual doctors is overseen by the Regional Committees. The parent Committee is involved in setting criteria for training posts, to provide career advice and information and to establish the educational needs of overseas doctors and dentists. To assist in this task the Committee appoint Speciality Advisers who work closely with Regional Specialty Advisory Sub-Committees.

The Regional Advisers under these new arrangements were responsible for identifying local objectives and assessing their achievement and cost effectiveness are an important part of the network along with Postgraduate Tutors who are normally based in one of the 35 Postgraduate Centres in Scotland and are responsible for the day-to-day working of these Centres. They endeavour to promote and support all forms of Postgraduate and continuing education and liaise with general practice and speciality advisers. Berrington in 1987 reported that Regional Advisers had begun to identify priorities and strategies for continuing education and had appointed part-time General Practitioner Tutors who were responsible for developing local programmes. Berrington also showed that many of these Tutors had been involved in vocational training but few of them had received any formal training for their role in continuing education. In Scotland, the Regional and Associate Advisers include in their remit the duties undertaken in England by Course Organisers for Vocational Training and aspects of the duties of General Practice Tutors for continuing medical education. Funding of the Council and Regional Committees as well as some expenses for Postgraduate Centres is provided by the Scottish office Home and Health Department. The cost of Postgraduate Centres is split between the Health Board which pays for heating, rates, electricity and the Regional Committees who contribute to the cost of the administration, library services, equipment and audio-visual aids.

A similar change in structure took place in 1988 when the Council in England was replaced by a Standing Committee of Postgraduate Medical Education (SCOPME). This Council was given a membership of 14 who were appointed by the Secretary of State for Health and observers from the Postgraduate Councils of Scotland and Northern

Ireland, the Department of Health, the Welsh Office and Assessors from the GMC and GDC. Its remit is not only to advise the Secretary of State for Health on postgraduate and continuing medical education but also on standards of the professional bodies and to identify particular problems and difficulties of reconciling service and training needs.

During the 1980's there was a decline in the number of activities and the attendances at Postgraduate Centres with only a slow and uncoordinated growth in practice based learning and small group activities. Berrington (1987) confirmed that most of the educational activity was in lecture form despite the evidence of their limited educational value. So, although an educational network of personnel was in place there was still some way to go to ensure the standard of the end product. Peer review became more common and took three main forms. The first was reported by Reiss et al (1981) and was in the form of practice meetings often with ancillary staff. A second form was the emergence of young Principals groups and Millac (1985) reported that an important component of these meetings was peer review. The third was the development of the practice visit which was born out of the recommendations of What Sort of Doctor? by the RCGP (1985).

In 1989 the Regional Advisers in England and Wales reported on future strategies for continuing medical education in general practice. They reiterated many of the findings of previous reports such as the need for educational materials locally and improved selection, training and remuneration of district Tutors. However, many emphasised the need for practice based learning and educational peer review. They underlined the importance of a close network between the Regional Adviser, General Practice Tutors, RCGP and Local Medical Committees.

The success of the recommendations depended on adequate resources being made available and identifying the educational need of the consumers so that the education provided could be as relevant as possible.

In 1989 the Department of Health issued their proposals for a new contract for General Practitioners which came into force on the 1st April 1990. The Government's aims for postgraduate education, as set out in the new contract, were:-

1. To assist the G.P. to maintain a balanced programme of continuing training through payments towards an element of the course fees and the travel and subsistence costs.

2. To stimulate interest amongst educational organisations and to lead to an increased variety of courses being available.

3. To guarantee the quality of courses and activities by ensuring that they are accredited as educationally valuable and recommended to G.P.s by the Regional Adviser in General Practice and Regional Postgraduate Committee.

4. To ensure that G.P.'s keep up to date and extend their knowledge and expertise on a wide range of G.P. activities, by dividing courses into three broad areas.

As a result Postgraduate Medical Education underwent major change with the abolition of the vocational training and postgraduate training allowances and the replacement with a new financial incentive called

the Postgraduate Education Allowance which had a value of £2,025 and now stands at £2,100. An element of this went towards course fees, travel and subsistence and thus replaced Section 63 which is still used by the Trainees and remains centrally funded and administered by the Regional Advisers. General Practitioners must use their Postgraduate Education Allowance to "buy" their education from any source they wish. The only requirements which will constrain them is that they must attend five days of educational activity a year, that over any period of five years they attend at least two days training in each of the following three subject areas - health promotion and prevention of illness, disease management and service management. The course must be recognised as satisfactory by the Regional Adviser and the role of accreditation has been added to his remit. The effect of these changes has been to create an educational market place and a competitive environment in which doctors and their staff may choose courses in their purchaser role on the basis of usefulness, attraction and cost effectiveness and as a result educational choice and responsibility in continuing medical education has been transferred to the individual. Traditional lecture programmes, although of limited educational value may well be considered to be the easiest, cheapest qualifying route and doctors may choose activities which they perceive to be attractive to them and not those they need to improve performance as these may be perceived as threatening (Brooks 1989). It is likely that the selection of relevant, well designed activities will tend to occur only if they lead to enhanced practice income, eg. minor surgery, child surveillance and information technology.

Concern has been expressed by Wall and Houghton (1989) that no provision has been made for the organisers of educational activity nor

has there been any mention of assessment which is recognised as an integral part of education.

However, there do appear to be some advantages to the changes as Bahrami (1990) pointed out. The national criteria for accreditation of courses should help to maintain a high and uniform standard of education. The new arrangement will encourage more variety and provide opportunities for more practice based learning and the development of personal education plans. Such diversity may enhance the effectiveness of the education provided as suggested by Muir Gray (1986) and Haynes et al (1984). The main challenge for the Regional Advisers is not only to cope with the increased workload but also how to finance these new arrangements and monitor quality. Although this `built-in' quality control brought about by accreditation may seem like a major advance the Regional Adviser has to, in reality, accredit meetings from the programme submitted. The venue, identity of the speakers, timing and format are known but there is little clue as to content, quality of the speakers and the educational objectives of the meeting. It would therefore be desirable to have an assessment or monitoring procedure used at all meetings which can be fed back to the postgraduate office.

In 1991 an Advisory Group chaired by Dr Kenneth C Calman published a report on Postgraduate Medical and Dental Education in Scotland. The report suggested that in light of the N.H.S. changes a new structure was required with a new Scottish Council. The suggested infrastructure builds on an already established structure and consists of a blend of a National Council to discuss broader issues and a local structure to deliver educational programmes. The new Scottish Council would be

run by an Executive Director supported at a local level by the Postgraduate Deans or Regional Directors. The report also highlighted the need for staff development programmes and training for the educators and need for research in postgraduate education. As Wood (1988) pointed out, despite the many reviews and recommendations which have been evident over the years many of the deficiencies highlighted in the 1970's and 80's still exist.

The amount of educational activity available for General Practitioners has certainly increased since the contract changes but the provision is still haphazard and concern for quality remains. In continuing medical education the goal is ultimately to improve the provision of health care in the community and as stated in the RCGP's Quality in General Practice (1985) there are still unacceptable differences in the quality of general practice despite many major improvements in the specialty. One criterion laid down by Berrington (1987) for a `model G.P.' was "Desire to develop professionally through continuing medical education and performance review".

To encourage doctors to do this education must be effective and relevant. Muir Gray (1986) outlined the principles of effective education.

- The education should be based on the doctor's own work as well as on research findings.

- The doctor should be helped to assess his or her own work and to compare it with that of others.

- The whole team should be involved where teamwork is necessary for good quality care.

- Continuing education programmes should be developed in collaboration with doctors rather than being imposed on them.

- The views of patients should be incorporated in continuing education.

- Continuing education should help the physician not only to acquire new knowledge and skills but also to change the way he or she works.

- Continuing education must be based on the assumption that doctors are busy but that the great majority would like to improve the quality of care they provide and they need time to learn.

- Doctors should be involved in the development of their continuing education.

- Continuing education should be enjoyable.

This list of criteria do not seem terribly daunting and yet many of them are still being ignored by educational providers.

Professor Ronald Harden (1992) stated that continuing education should be convenient in time and place, relevant to the practice of the participants, individualised, should include key interest points to maintain the momentum of participation and have a systematic

coverage of relevant material, not simply to maintain up-to-date knowledge but to adapt to social attitudes and the public's expectations of medical care. It is important that any future changes should address the quality of continuing medical education rather than the quantity.

SUMMARY

The structure of postgraduate education has developed over recent years and is now well defined. The New Contract changes have concentrated on structure without giving any thought to quality. The choice of educational activity has been handed to the individual who has been given no direction other than the criteria which must be met to obtain payment.

No provision has been made for financing these activities nor to the remit of the course provider. The basic principles governing effective education have once again been ignored.

CHAPTER 2

CHAPTER 2

EFFECTIVENESS OF CONTINUING MEDICAL EDUCATION

"The education of most people ends upon graduation - that of the physician means a lifetime of incessant study".

Marx (1865)

Medical training is time consuming and expensive. Evered and Williams (1980) reported that the cost to the United Kingdom per year was in the region of £100,000,000 and yet little has been done to ensure that there is a return on this investment.

After graduation the education of a doctor becomes a life long process. The universities choose the cream of students for medical school and expose them to a fairly rigid process of learning which produces graduates who are certainly well informed but perhaps poorly educated. This process still uses many of the traditional teaching techniques which is perhaps not the best foundation for the development of the attitudes necessary for continuing medical education. Fabb (1981) has highlighted motivation and a need to know as important in postgraduate education and yet the Government has introduced a financial incentive of £2,100 for doctors to attend education sessions and the onus is on professional educators both private and public to show that this money is being well spent.

The aim of continuing medical education as described by Scott (1976) is that it exposes doctors to new medical information, increases physician knowledge, changes their behaviour and ultimately alters patient

outcomes in a favourable way. Evaluating these educational programmes, ie. estimating their worth or usefulness is very difficult, as any change produced can be multifactorial and a variety of techniques may need to be employed.

This chapter aims to look at the factors that can influence the effectiveness of an educational programme and reviews the literature on evaluation of continuing medical education.

Factors which influence the effectiveness of C.M.E.

1. **The Learner**

Forrest et al (1989) have shown that G.P.'s acknowledge a professional responsibility to keep up to date and continue learning.

Three closely linked problems of continuing medical education were identified by Millac (1985) - isolation, a reduction in job satisfaction and lack of motivation. Isolation may be geographical and also intellectual where there is no feedback on performance which in turn stifles job satisfaction. Pickup et al (1983) highlighted a problem with motivation in 82% of respondents who had encountered obstacles to their education such as lack of time, practice commitments and the need to preserve family life. The increasing pressure of work resulting from the new contract changes does not engender an atmosphere conducive to learning for today's G.P. Murray et al (1991) showed that doctors in small practices or single handed and older G.P.'s did not claim their first postgraduate education allowance.

Not only do work circumstances influence our uptake of education but each individual's characteristics will shape their perceptions of whether

the teaching on offer has relevance and whether it engages their interest. Honey and Mumford (1986) have identified four distinct learning styles.

Types	Ideal learning opportunity
Activitist	Anything new; challenges; variation.
	Drama; roleplay; games.
	Leadership; generating ideas; teamwork.
Reflector	Observation; chewing over a problem. Time for preparation.
	Research; reports; analyses.
	Review of learning.
	Exchange of views (non threatening).
Theorists	Framework; ideas and concepts.
	Time to explore connections.
	Time to question assumptions/methods.
	Complexity - intellectually stretching.
	Clear purpose and structure.
Pragmatists	Link with problem on the job.
	Practical techniques.
	Practice and feedback.
	Credible role model.
	Clear end product.
	Immediate opportunities for implementation.

This offers a framework of teaching methods which can be individually tailored but in reality doctors often choose courses which are non threatening and convenient and which may not reflect their learning styles. Such a mismatch will inhibit the effectiveness of that educational activity.

2. Educational Methods

Because doctors are so individual there is unlikely to be one way for learning and different methods will be required by the same person for different needs at different times. Knowles (1984) identified 7 principles of adult learning which need to be tackled by the organisers of adult learning programmes.

a) To establish a physical and psychological climate or ethos to learning.

b) To involve learners in mutual planning and curriculum directions.

c) To involve learners in identifying their own needs.

d) To involve learners in formulating their own learning objectives.

e) To involve learners in identifying resources and devising strategies using these resources to accomplish their objectives.

f) To help learners carry out their learning plans.

g) To involve learners in evaluating their learning, principally through qualitative education methods.

Unfortunately many of the educational techniques which are available and popular with the general practitioners do not take cognisance of these principles.

The postgraduate lecture is still the backbone of our continuing education despite the fact that the lecture has been shown to be the least appropriate way of achieving learning in adults. There are advantages, however, to this style of teaching in that it is an economical use of time and provides up-to-date information in a rapidly changing and developing speciality. This transmission of information does not necessarily improve doctor performance which is the underlying aim of C.M.E. (Sibley et al 1982, Avorn J, 1983) Often the lecturers are speaking on an area of specialist interest which may not be entirely relevant for general practice. The lecture does provide an opportunity for discussion with colleagues but more often than not it is more of a social success than an educational one.

Whether knowledge is improved by attendance at this type of meeting is doubtful. A study by Gauvain et al (1965) on occupational health courses showed that using pre and post tests, there was no significant objective differences but there was subjective preference for the formal lecture. The same finding was shown by Williamson and McGuire (1968). Other studies which did show some increase in knowledge post lecture also found that this was not maintained three months later, Hazlett et al (1973) or six months later, McGuire et al (1964).

In light of this evidence the criticism of traditional C.M.E. would seem justified. Unfortunately this is often still the format of education in undergraduate teaching and vocational training. Doctors have been brought up with this and are comfortable with it. Other methods may be perceived as threatening and it is therefore necessary to alter these learning habits and encourage G.P.'s to be more active than passive.

Small group teaching has become increasingly fashionable over the years. The advantages are that it is less isolating and the members are the resources for the groups. Such groups should have a skilled leader who can outline the aims of the group and who can control the group dynamics by encouraging the less participative members and quietening the more garrulous ones. This type of teaching has been found to be useful and enjoyable mainly by the younger members of the profession and young practitioner groups have flourished in recent years.

In a survey carried out by the Scottish Council for Postgraduate Education in 1979 only 23% of respondents enjoyed small group teaching. Practice based educational meetings as described by Reiss et al (1981) have also flourished in recent years and allow for a regular exchange of views. The danger of these is that they can become too cosy and sight of the educational objectives could be lost. It is difficult to monitor the outcome measures of these meetings although they have the potential to contribute to the education of staff and partners alike.

However, small group learning as a single entity has failed to demonstrate its ability to change physician performance or patient outcomes, Jennett et al (1988). This may be as a result of inadequate potency of small group learning in the C.M.E. setting or to undirected discussion within the group. Whatever the reason it would appear that they cannot stand alone but should be combined with other methods to be effective.

Self learning. This includes not only the reading of many journals and other medical literature which floods regularly through the post box,

but listening to tapes, watching videos, using computer tests and self assessment programmes. Distance learning programmes have been developed by the Centre for Medical Education in Dundee although only a minority of G.P.'s avail themselves of this.

One such Scottish initiative was the Continued Learning in Practice Project (CLIPP) described by Donald (1984). This was a structured distance learning programme designed to meet the learning needs of G.P.'s which had been identified in earlier discussions. It provided appropriate reference material and a personalised follow-up advisory service. This was based on the early work on distance learning by Harden et al (1979) who found that this type of educational package was given a favourable response by G.P.'s but there was no evidence of change in behaviour or effect on patient care.

Computerised assessment packages have been used in undergraduate teaching but more recently with G.P. trainees (Donald, 1993). This showed an increase in knowledge and 63% found it helpful to pinpoint areas of knowledge deficiency. One of the problems of this type of education is the availability of suitable hardware to run the programme.

There are many advantages to personal study in that it can be done at a time convenient to the doctor, is done by choice, is suitable for rural, isolated or single handed G.P.'s who find difficulty getting away from the practice. It can include self assessment and can be related to need. On the other hand it is socially isolating, requires motivation and often the material read is irrelevant. General practitioners' lives have become more hectic and the protected time needed for this type of study is often the first casualty. Sibley (1982) showed that self study had an

inconsistent effect on practitioner behaviour. Doctors need to have feedback on performance if their enthusiasm for learning is to be maintained. Performance review involves setting goals, assessing performance and receiving and responding to feedback and can form the basis for an individual's curriculum. Self directed learning as described by Stanley et al (1993) uses the daily experiences of the doctor and links this to competence by using reading, reflection and audit. As Schofield (1987) pointed out, it is not always easy to be self critical and assess one's learning needs. Self assessment need not be a solitary activity (Buckley, 1982) and can be included in pre course testing to identify specific knowledge gaps which can be dealt with. For those who cannot cope with self assessment, peer review may be more comfortable and is an opportunity to compare yourself with colleagues, receive their support and learn from their ideas. Assessment visiting as recommended in What Sort of Doctor? is a form of peer review that has been shown to facilitate change. Some feel threatened by this approach and the danger is that peer review will become collusive or avoided (Coles, 1989).

The use of tapes and videos is low and very few studies have been done in this area. Neu and Howrey (1975) showed an improvement in performance in a large group of doctors using these methods but there has been no work done on quality of patient care.

Journals are widely available to all doctors and Murray - Lyon (1977) showed that for many this was the preferred method of learning. Wide distribution and high quality is not sufficient for a journal to have a major educational impact even though the reading of specialty journals

is known to be positively and uniformally related to high information scores.

Audit

This has been the `buzz' word of the nineties and is guaranteed to engender a great deal of emotion among general practitioners. This is probably because it was felt that it had been imposed on them as a result of the 1990 contract when they were struggling to cope with all the other changes. This is a great pity as audit is a valuable educational tool and its aim is to improve quality of care by setting standards, looking at what is currently being achieved and make the necessary changes to meet the new standard and repeat the cycle, Difford (1990).

The Committee of Enquiry into Competence to Practice (Alment, 1976) characterised medical audit as "a sharing by a group of peers of information gained from personal experience and/or medical records, in order to assess the care provided to their patients, to improve their learning and to contribute to medical knowledge". For audit to be educational both insight and self esteem must be developed and it therefore goes hand in hand with self assessment. Ashbaugh and McKean used audit in 1976 to look at performance in a surgical unit. They found that 94% of deficiences identified were in the area of performance while only 6% were due to lack of knowledge.

If we accept that education should reach all doctors, be orientated to the practice and problems of the speciality, should initiate programmes to correct deficiencies, identify areas of educational need and provide a forum for the introduction of new advances then audit would appear to be an ideal vehicle with which to fulfill these aims.

Portfolio based learning

Since 1984 this has been introduced into adult learning. The `portfolio' contains a collection of evidence gathered by an individual in his or her role as `learner'. It is said that much of a doctor's learning is done `on the job' from his or her experiences. But experiences only form the source of learning and the crucial intellectual task is that of moving from a description of experience to an identification of the learning derived from that experience. This process makes up the portfolio and may consist of audit results, case descriptions, videos, papers. This can be used in two ways. Firstly, by discussion with a supervisor who will help identify, clarify and facilitate the learning and secondly, it can be used to assess learning. The portfolio therefore contains details of learning needs, learning experiences, and new skills learned. As Pietroni (1992) points out this is new and will be treated with suspicion. It is learner based and requires motivation and time and doctors may not find this practical to do during their hectic day to day routine. Although it meets the criteria for adult learning, its effectiveness on patient care has still to be shown.

3. Evaluation of Continuing Medical Education

For many years the importance of C.M.E. has been recognised but it has been largely criticised as being ineffective. It has proved a difficult subject to appraise in terms of effect on physician performance and patient care (Miller, 1976). Education has become a growth industry and the need for critical evaluation has accelerated. One of the problems in evaluation is that education is provided in a variety of ways and many of the important changes that we should measure may be very subtle ones. As Caplan (1973) points out, C.M.E. does not lend

itself to assessment which is both clinically meaningful and mathematically neat and therefore anecdotal information may become very important. The whole ethos of evaluation is to gather information about an educational programme so that judgements can be made about its merit which can be used for future development. It is therefore a vital component in the provision of effective C.M.E.

The main methods of evaluation tend to be quantitative or qualitative (Coles, 1985). Quantitative methods include:

- attitude scales
- rating scales
- questionnaires
- controlled studies
- pre-tests and post-tests
- observation schedules
- introduction analyses.

These methods need to have a proper sampling technique, good sample size, matched control groups and minimal observer error and if they meet these criteria then results should be valid and reliable. It is a useful way of gaining baseline information but the teaching - learning environment is a very complex one which involves many dimensions of human experience - emotional, physical, cognitive and attitudinal and a great many variables which cannot be controlled are introduced into the equation. Quantitative methods can only look at one particular part of an educational event and therefore cannot stand alone in the evaluation process.

Qualitative methods on the other hand are more specifically designed to understand the educational situation and are more adaptable. They include:

- Interviews - semi-structured
  - unstructured
  - discussion groups.
- Observation - participant
  - spectator.
- Diaries/reports.
- Documentary analysis.

Semi-structured interviews are useful in exploring peoples feelings and allows them to express freely and give additional information. Observational evaluation provides a descriptive account of events whereas reports from participants reveal subjective experience. Documentary analysis is useful when evaluating an innovation or planned event. Given the complexity of evaluating an educational meeting a combination of qualitative and quantitative methods would seem appropriate.

Given this background it is important to know what areas should be assessed in terms of effectiveness of education. Abrahamson (1968) showed that this could be divided into 3 broad areas:

- Participant Reaction
- Achievement Testing
- Physician Performance.

Participant reaction is commonly sought at the end of a course and information is gathered on whether the learner enjoyed the course, views on the speaker and comments on what they got out of the course and if their objectives were realised and whether they found it stimulating. This is very superficial and gives no clue as to the educational value of the meeting. A good response rate must also be obtained to ensure that the views expressed are representative. It does, however, give some indication of satisfaction and this in turn should be linked to the degree of their learning although what that learning actually is remains unclear.

Achievement testing involves pre and post testing and gives the educator quantitative information that an improvement in knowledge was or was not facilitated by attendance. This is limited to the specific areas of information tested by the test procedure and can be perceived as threatening by the learner. It gives no indication of subsequent effects, if any, on physician performance.

This leads into the final area which involves access to doctors in their working environment. This has been done using interviews or questionnaires but there are so many other external forces involved that change cannot always be linked to an educational event.

The impact of C.M.E. on the quality of medical care in the United Kingdom is substantially unknown with most of the work being done in the States. Berg in 1979 reviewed the literature on the effect of C.M.E. on physician knowledge, behaviour change and patient outcome. He found some evidence of improvement in knowledge while others were inconclusive, few had looked at behavioural change but of the small

number that had there appeared to be a positive effect. There was a dearth of material on patient outcomes with one study by Lewis and Hassanin (1970) failing to show a positive effect on perinatal mortality and maternal complications following a course in obstetrics and paediatrics. Berg concluded that evaluation of C.M.E. had been meager. Of the 200 listings on C.M.E. in the 1977 Index Medicus over 75% were editorial comments and the rest were reports on how it was being done locally. Less than 10 attempted evaluation.

Evered (1980) also reviewed published work from 1960-1979 and chose papers whose titles suggested methodological evaluation. These looked at different types of education and most stated that a high proportion of those who select a particular mode of postgraduate education are satisfied with their choice. Only 4 out of the 51 papers met the modest criteria for scientific validity, only 11 contained any objective data and no more than 5 included adequate control data.

In 1981, Stein reported on 8 papers which highlighted change in physician behaviour and, in one, improved outcomes as a result of C.M.E. which was based on sound educational principles. Most, however, were hospital based studies. Six evaluation techniques were used in the 8 studies, none relied exclusively on any one method and none used all 6.

Haynes et al (1984) collected 248 articles describing studies of C.M.E. interventions. Each was reviewed with reference to study design, educational with or without administrative interventions, description of the health professionals involved, assessment of outcome of the interventions in terms of learner satisfaction, knowledge gain,

behaviour change and/or patient outcome and statistical significance of important findings. 13% of articles had described randomised trials. 38% of the studies included assessment of clinical performance but only 7% of all trials and 20% of randomised trials examined patient outcomes. Less than half provided some statistical interpretation of their observations. Only 7 articles met all the pre-set criteria and were reviewed in detail. Most of them had not been published at the time of the earlier reviews. Although these were of a much higher standard than previous offerings all used some form of practice audit to measure effect of their intervention rather than actual practitioner behaviours and patient outcomes although they did show that C.M.E. can improve doctor performance. Only 3 of the best studies looked at patient outcome and only one demonstrated any benefits at all and these were statistically flawed and clinically unimpressive.

The most recent review was in 1992 by Davis et al. They aimed to look at the different types of C.M.E. and their impact on physician performance and health care outcomes. The criteria laid down were broadly similar to those of Haynes in 1984 in that they should be randomised controlled trials; educational programmes, activities or other interventions; studies that included 50% or more physicians; follow up of at least 75% of study subjects and objective assessments of either physician performance or health care outcomes.

Of the 777 articles identified only 50 met the criteria. Thirty two analysed physician performance, 7 patient outcomes and 11 both. Most of the 43 studies of physician performance showed positive results in areas such as resource utilisation, counselling strategies and preventive medicare. Of the 18 studies of health care outcomes 8 demonstrated

positive changes. The degree of impact of the education was largely dependent on the type of educational interventions. Academic visits appeared to be effective change agents as were patient education materials, computerised practice based information, feedback and chart review in combination with the more well known educational methods.

It is encouraging that the quantity and quality of the literature on the effectiveness of C.M.E. has increased in recent years but it still represents a very small proportion of all the articles on this topic and highlights the difficulties of such work in this area. Quality evaluation of the effectiveness of C.M.E. requires the use of a variety of assessment procedures and must ultimately aim to measure effect of physician behaviour and patient outcome.

SUMMARY

There are many different ways of providing education for general practitioners. Often the most effective are perceived as being the most threatening and are therefore little favoured by doctors. The effectiveness of CME on quality of practice and patient care is difficult to assess and is reflected in a dearth of literature on this subject. Educating doctors is a costly business and it is important to find out if this money is being well spent. We are living in a 'prove it' age and we must therefore evaluate the current arrangements critically to determine if the valuable time spent at meetings is worthwhile for both the doctor and the patient.

CHAPTER 3

CHAPTER 3

C.M.E. AROUND THE WORLD

The relationship between continuing medical education and the medical system is apparent in many countries throughout the world. In order to put the British system into perspective it is useful to be aware of what is happening worldwide.

United States

A historical review by Manning (1987) traced the starting point of C.M.E. to 1955 when the Americal Medical Association (AMA) sponsored a study of C.M.E. that concluded that there should be an advisory board to establish standards of evaluation and accreditation and to co-ordinate efforts. In 1962 eight organisations joined together and produced the Drymen Report which recommended the designing of a curriculum to meet individual needs. In 1961 and 1962 the AMA instituted a voluntary accreditation programme for sponsors and education providers. National accreditation for C.M.E. is now carried out by the Accreditation Council for Continuing Medical Education (ACCME) which also has a monitoring role. It has laid down specific criteria for providers and the result is co-ordinated planning and better quality of C.M.E.

After World War 2, mandatory C.M.E. received greater emphasis. The AMA continued to insist that participation should be voluntary but despite this several state licensing boards developed C.M.E. requirements for relicensure. The current situation is that once doctors have completed their training they can still avoid further education but

this is becoming more difficult. Mandatory C.M.E. has further accelerated growth of traditional C.M.E. and it focuses on attendance at courses and may have stifled the development of educational activities more tailored to physicians' needs.

At the moment, 24 of the 50 states require doctors to earn credits in C.M.E. to become relicensed and this is usually a commitment of 50 hours per year. The main impetus for C.M.E. has come from specialty societies. In 1973, the Americal Board of Medical Specialties agreed to the principle of recertification for diplomates of the member specialty boards. By 1986, thirteen specialty boards had decided to issue time-limited certificates. Each specialty board has specific requirements, but virtually all require some type of examination and a review of medical performance. This can consist of an operating log of a surgeon or may be an extensive review of patient records. It has failed to meet the challenge of individualised, practice linked education.

Sibley (1982) reported that in 1977, 500 million dollars was spent annually on C.M.E. by physicians, medical schools, hospitals, medical societies, industry and governments. An additional cost of 1.4 billion dollars is borne by the physicians in income lost when they take time out to attend these programmes.

The funding of C.M.E. is still a problem. Much of the educational activity is sponsored by drug companies and other manufacturers. In the past 2 years the U.S. Food and Drug Administration (FDA) has questioned the impartiality of these events and their dubious educational value.

This issue of quality is one which still has to be addressed and educators are trying to focus C.M.E. on practice and not simply knowledge. Much of the research carried out in the field of C.M.E. has been done in the States but despite this they still share similar problems to ourselves.

Canada

Canada is also trying to ensure that its doctors remain competent mainly by relying on medical licensing bodies to identify those who have not maintained their qualifications.

The Royal College of Physicians and Surgeons of Canada who are a standard setting and not a licensing body have initiated a pilot project, the maintenance of competence pilot project (MOCOMP), which provides a credit system based on quality. It focusses on self-direction based on patients' needs and is designed to motivate doctors to appraise critically the quality of their C.M.E. and continually to update their clinical practice. It does this by a process where doctors record what they are doing especially in self directed learning and this is submitted to MOCOMP. At the end of a year MOCOMP send the doctors a review called the C.M.E. profile. MOCOMP has identified seven criteria for C.M.E. activities that change doctors' practice and from this a scoring system has been developed with which doctors are awarded credits.

This sytem would appear to encompass the values of adult education and is very similar to portfolio based learning described in previous chapters.

Australia

The main changes in postgraduate medical education have taken place in the area of vocational training for general practitioners. A vocational register was established in 1989 and to gain entry to this a doctor with basic training has to do three years of further part-time training on a family medicine programme. These moves reflect what is already an established system in the U.K. but it is thought that it will encourage doctors to continue training and to accept external assessments of the quality of their services.

Continuing education, quality assurance and audit are in their infancy. The specialist subjects have developed their own system of recertification. The Obstetricians and Gynaecologists are on a 5 yearly cycle and if they fail to attain enough points through feedback tests, attendance at approved meetings, teaching, giving presentations and published work then they revert to being members of the college and lose certain rights to charge specialist fees. There is as yet no set structure for C.M.E. for the family physician.

Europe

In Europe there are 31 countries with different culture, language and political systems. Some countries have centralised and decentralised health authorities and administration, others have a private system. Paccagnella (1990) reported on the four ways of funding C.M.E. in Europe.

1. Public funding. Often this is inadequate to meet the cost of quality C.M.E. and is open to political interference.

2. Industrial funding, ie. from drug companies, technological and insurance companies is motivated by market forces and the wish to improve the public image rather than educational value.

3. Private funding. In some countries the desire for knowledge may be stimulus enough to encourage doctors to use their own monies to attend courses but then they may choose the cheapest and not the best.

4. Combination of all three. This is the state of play in many European countries.

Denmark

C.M.E. in Denmark is not compulsory but over 25% had spent over 100 hours on courses in the past year. The obstacles to C.M.E. included high course fees and problems in getting away from work. Many of the doctors are not participating at all. Of those who do, most are broadly satisfied with the range and standard of C.M.E. It may be that C.M.E. will become obligatory in the future but the main problem would be funding of such a venture.

France

C.M.E. courses are administered through a very large number of associations that form 28 regional groups and are co-ordinated by a national body, L'Union Nationale des Associations de Formation Medicare Continue known as UNAFORMEC. C.M.E. is not compulsory but is actively encouraged by both government and medical associations and almost half of French doctors participate.

Doctors contribute half of the cost of courses and the health insurance branch of the Securite Sociale provides a payment of Fr 1500 (£180) a day to compensate for loss of doctor's earnings while attending meetings. Sponsorship by the pharmaceutical industry is widespread. Strategies to alter the funding and co-ordination of C.M.E. are being investigated but it is unlikely that it will be made compulsory.

Italy

C.M.E. is the responsibility of the SSN. One of the main objectives is to ensure continuing education of health personnel as well as their constant updating. These two aims are quite different. C.M.E. is ongoing and progressive, while updating is episodic and of limited scope. C.M.E. is obligatory for permanent NHS staff following an agreement in 1987 between the NHS, GP's and CME medical tutors. GP's are independent from traditional university or hospital educators in choosing their educational content according to priority and their learning is self directed. There is a need, however, for a proper accreditation system for the providers of C.M.E. as much is provided by private agencies who work in conjunction with pharmaceutical and technological industries. (S.S.N. is Servizio Sanitario Nazionale)

SUMMARY

Continuing medical education is recognised as being important around the world and is in various stages of development. Many of the problems stem from lack of funding and this offers the pharmaceutical and commercial companies an input. Even in countries where education is the basis of reaccreditation there appears to be difficulties with quality control and measuring effectiveness of the educational activities.

CHAPTER 4

CHAPTER 4

THE INTRODUCTION OF POSTGRADUATE EDUCATION ALLOWANCE IN THE WEST OF SCOTLAND

The educational changes of the new National Health Service Contract came into force on the 1st April 1990. However, G.P.'s were given the opportunity to claim their first postgraduate education allowance if they attended 10 educational sessions under Section 63 from 1.4.89 to 31.3.90. For many this meant that they would also be eligible for the old seniority allowance giving an added financial incentive to attendance. The period of qualification was then extended by a further 6 months and the demand for educational sessions rose dramatically although the Section 63 budget in the Region until 31.3.90 had already been committed.

A number of one day meetings were organised from January to March 1990 on a range of topics to accommodate this sudden need. (Appendix I) Doctors were charged £30 per day for these clinical meetings which were 2 sessions in length. 827 doctors attended at least one of these meetings. These arrangements not only enabled doctors to obtain the necessary initial sessions by 1.4.90 but the proceeds helped solve the financial problems outlined by Hasler, 1990 and funded the establishment of an educational scheme in the West of Scotland.

The West of Scotland package was launched in April 1990 and its aim was to provide a wide range of quality courses at central and local venues, such as intensive week long courses, expert lectures, small group work and the opportunity for practical experience. It not only

guaranteed its members provision of the required number of sessions but also an opportunity to attend additional courses at no extra cost and a regular update of the sessional requirements on an individual basis. A computerised database was set up to keep a record of each subscriber and of the courses attended. This record of attendance was acceptable to the Health Boards and no further documentation was required to be submitted by the individual doctor.

An administrative structure was set up to deal with any queries and monitor course bookings. Doctors were sent regular mailings updating information on plans and developments. In the first year the subscription was set at £300 and the income was used to pay speaker's and organiser's fees, expenses and support the infrastucture.

The West of Scotland region covers six Health Board areas - Greater Glasgow, Ayrshire and Arran, Lanarkshire, Argyll and Clyde, Forth Valley and Dumfries and Galloway. It stretches from Oban in the north to the south west border of Scotland (200 miles) with Falkirk and Stirling being just within the eastern border. 1802 general practitioners work in the six Health Board areas serving 2.8 million patients.

The region therefore consists of a large number of doctors working in a variety of circumstances. Some are geographically isolated while others are more central but in areas of severe deprivation. The challenge was to provide an educational package with something for everyone. Doctors who had an interest in education and who had previously provided education for G.P.'s throughout the region were approached and invited to contribute to the programme. In the initial booklet 249 courses were advertised with 125 of these being arranged centrally and

the remainder throughout the region. They covered a range of topics including Paediatric Surveillance, Minor Surgery and there were also clinical updates, management courses, consultation skills and general practice research. 166 were in Disease Management, 80 in Health Promotion and 104 in Service Management. The length of the courses varied from 1/3 session to 1/2 session to 1 session to more than 1 session for courses of 2 or more days. The number of meetings for each sessional value is shown below.

West of Scotland Scheme Meetings 1.4.90 - 31.3.91

Sessional Value	Number
>1	72
1	301
0.5	65
0.33	113

Details of courses provided in each of the Health Board areas is shown in Table 1. The majority of courses were held in the Greater Glasgow area where most of the doctors practiced but there was adequate provision in the more outlying areas too.

Bahrami, 1990 voiced the fear that doctors might not bother with postgraduate education when they have to pay for it in order to claim a fee which was already part of their seniority payment. However, Murray (1992) found that doctors in the region were supportive of the scheme with 69% subscribing in the first year as shown below.

Health Board	Total G.P.	Subscribers	%
Greater Glasgow	653	487	75
Lanarkshire	300	220	73
Argyll & Clyde	307	167	54
Ayrshire & Arran	252	188	75
Dumfries & Galloway	104	76	73
Forth Valley	186	113	61
Region	1802	1251	69

The uptake varied from Health Board to Health Board with the lowest number of subscribers being 54% and the highest 75%. 4 of the 6 Health Boards had over 70% signed up. A number of the remaining doctors had sessions which they carried forward from the previous year and paid for individual courses on a pro-rata basis. Some made their own arrangements for provision both within and outwith the region while a small number - 102 (5.7%) of general practitioners had attended insufficient sessions to claim the allowance. All of them had attended two or fewer sessions with 41% being centrally based in the Greater Glasgow area where most of the education was available. The number of doctors not eligible in the other Health Boards is shown below. These figures showed an improved uptake of education as in 1989-1990, 499 general practitioners had no educational sessions.

Health Board	Total G.P.	Not Eligible	%
Greater Glasgow	653	42	(6.4)
Lanarkshire	300	16	(5.3)
Argyll & Clyde	307	17	(5.5)
Ayrshire & Arran	252	14	(5.6)
Dumfries & Galloway	104	4	(3.8)
Forth Valley	186	9	(4.8)
Region	1802	102	(5.7)

Murray (1992) analysed the region's experience after the first year of the scheme and found that doctors had, on average, attended 14 half day educational sessions in 1990/91 compared with 10.3 half days in 1989/90, an increase of 36%. The increase varied from Health Board to Health Board but was highest in Greater Glasgow (51%) which had the highest concentration of doctors and the largest number of courses. Disease Management was the most well attended but 57% had achieved a day in all three categories and this meant that forward planning for the ensuing years had to include adequate provision for Health Promotion and Service Management sessions for doctors to fulfil their educational requirements. Subscribers to the scheme seemed to have achieved a better balance of education than non-subscribers with few in the latter group attending Health Promotion sessions. The scheme certainly did not stifle enthusiasm for education as Murray et al (1992) found that in the first year 171 doctors (9.5%) had attended more than 35 half day sessions and 34 (1.9%) had been at more than 45.

The abolition of travel and subsistence budgets might have been expected to restrict doctors to their own region. However, it was found that although doctors took to their own region for the majority of their education a considerable degree of cross boundary flow was maintained especially in Dumfries and Galloway and Forth Valley. Overall 413 (22.6%) doctors attended a meeting outwith their region in Cumbria, Grampian, London etc. The West of Scotland Committee for Postgraduate Medical Education decided early on to encourage exchange with other regions and refunded fees. There was no limit on the number of courses for which fees would be returned and as doctors from the West of Scotland attended more than three times as many half

day sessions of accredited education outwith the region as doctors coming into the west, it would appear to have been successful.

1991-92

Encouraged by these findings and the consumers' response the scheme continued in the following year. The West of Scotland Scheme was, and still is, a non profit making venture. Any profit from the year before was used to enhance the administrative structure and improve the database. Using figures from the year before it was estimated that the subscription could be reduced to £160. For those joining for the first time, it was £260. Non subscribers who wished to have their attendances recorded for Health Board purposes and to receive a quarterly update on courses were charged £30. Non subscribers were free to attend courses within the scheme but if they wanted them counted towards their allowance they were charged £30 per session.

The course information booklet was revamped to a glossier more user friendly version. It gave more details and timing of meetings. The number of courses available in the region also increased and the database was upgraded to give details of scheme meetings, accredited meetings and those organised by others, eg. RCGP which come under the scheme umbrella.

No. of sessions available 1.4.91 - 31.3.92

	DM			SM			HP		
Sessional Value	A	B	C	A	B	C	A	B	C
>1	29	13	14	24	20	3	12	5	6
1	242	29	12	182	37	107	121	23	13
0.5	90	26	41	55	11	27	8	3	7
0.33	110	19	36	41	2	10	17	1	3

A = Scheme; B = Accredited eg. Health Board; C = Others eg. RCGP

The overall uptake for this year was similar to the one before, The main difference was that subscriptions from Ayrshire and Arran fell. This is a rural area and the increased interest in educational activities had encouraged the more entrepreneurial family practitioners to set up their own courses for their colleagues. These were often sponsored by the pharmaceutical industry and once accreditation had been granted it provided the doctors with free, local education.

Health Board	Total G.P.	Subscribers	%
Greater Glasgow	609	486	80
Lanarkshire	329	254	77
Argyll & Clyde	313	143	46
Ayrshire & Arran	257	173	67
Dumfries & Galloway	105	71	68
Forth Valley	188	118	63
Region	1801	1226	68

1992-93

Finances were rather tight at the end of 1991/92 and it was felt that the fee had been set too low. Therefore, the subscription was set at £240 for all doctors whether continuing with the scheme or newly joining. The fees for non participants who wished to avail themselves of the recording facility or wished to attend some of the scheme meetings remained the same. Despite the increase in fees and the upsurge of competition borne out of the market place ethos, 56% of doctors continued to subscribe.

Health Board	Total G.P.	Subscribers	%
Greater Glasgow	626	452	72
Lanarkshire	332	218	66
Argyll & Clyde	310	117	38
Ayrshire & Arran	258	70	27
Dumfries & Galloway	116	68	64
Forth Valley	188	95	51
Region	1820	1020	56

There was a slight reduction in uptake in all Health Boards but Ayrshire and Arran fell to 27%. This area had general practitioners who had set up commercial companies themselves and were providing free sponsored education. 1044 educational sessions of more than 1/2 in value were arranged compared to 1023 the year before. 485 (46.5%) were DM, 179 (17.1%) in HP and 380 (36.4%) in SM. 94 (9%) were drug company sponsored, 553 (53%) were organised by providers in the scheme.

Sessions available 1.4.92 - 31.3.93

	DM			**SM**			**HP**		
Sessional value	A	B	C	A	B	C	A	B	C
>1	2	11	17	0	63	14	1	3	4
1	205	45	45	159	29	53	103	22	7
0.5	46	21	26	24	7	17	13	5	8

A = Scheme; B = Accredited eg. Health Board; C = others eg. RCGP

1993-94

The subscription was maintained at £240. The fee for the use of the registering facility was raised to £35 and the fee for non participants who wished to count attendances at scheme meetings was raised to £40 per session. Details of uptake will not be known until later in the session.

Over the years many of the teething problems encountered in administering such a mammoth task have been ironed out. In the statements of fees and allowances a course is not defined but a period of a day or more seems reasonable with smaller proportions being accumulative. For a second claim a G.P. had to complete at least one course in each of 2 categories and for a third one they had to have attended an educational course in each of the three categories. The database can now send quarterly bulletins and information to an individual authorising the sessions and categories required to fulfil his or her commitment thus allowing the doctor to plan their educational year in advance.

This type of season ticket scheme has been established in other areas of the United Kingdom such as Wessex. They have attracted scepticism and have been regarded by some as an attempt to squeeze out the competitors, limit choice and thought to be against the spirit of the open market.

However, the Regional Adviser is not only a provider but also an accreditor and the presence of the scheme has not halted the

proliferation of drug company sponsored meetings. These have increased in number as shown below.

Drug company meetings by sessional value and category

Year	Sessional Value	DM	HP	SM	Total
1990/91	>1	-	-	-	16
	1	-	-	-	22
	0.5	-	-	-	38
	0.33	-	-	-	8
	Total	-	-	-	84
1991/92	>1	6	3	0	9
	1	36	11	8	55
	0.5	41	7	3	51
	0.33	8	1	1	10
	Total	91	22	12	125
1992/3	>1	1	0	0	1
	1	32	10	12	54
	0.5	34	3	2	39
	Total	67	13	14	94

It is difficult to judge the educational value of a meeting from a programme but the Regional Adviser insists that there is general practitioner input to the meeting and they are monitored on a regular basis. An accreditation fee of £120 is charged to the pharmaceutical company. This helps to supplement the income from subscriptions. In England and Wales, extra funding was made available early in the new contract and helped support an infrastructure but this was not forthcoming in Scotland.

Having a flat rate subscription for the scheme cut down on administration but it also encouraged doctors to do more than 10 sessions per year if they wished at no extra cost. Other advantages included the ability to provide very high cost courses whose actual fees would have been prohibitive to any doctor attending eg. management courses used in industry. The scheme also allowed experts to be brought from a distance. This would have been difficult in the past due to their high costs and the limited budget. In the same vein, it allows the more isolated doctors to invite more speakers from outwith their area to locally held meetings. It has also allowed more realistic fees to be paid to the organisers and chairperson.

The scheme does seem to be popular with many general practitioners and it certainly provides variety, in fact initially there was over provision of courses and a small number had to be cancelled. The vast expansion in the number of educational events both here and elsewhere as described by Difford (1990) does give rise for concern about quality and educational value. It is against this background that this study has been carried out.

SUMMARY

The concept of an educational scheme is acceptable to general practitioners. It allows them to choose a variety of courses of different lengths and topics at times most convenient to them, thus enabling the doctor to achieve a balanced programme of education. It has not stifled choice but has allowed sponsored educational events to co-exist. The explosion in the number of courses may have led to an increase in choice but has also made it more difficult to monitor the content and the future survival of the scheme may depend on the degree of quality control which can be achieved.

	No. of Courses	DM	HP	SM	Length greater than 4 sessions ie.2 days
Central (Greater Glasgow)	143	93	35	52	60
Lanarkshire	20	15	10	11	12
Ayrshire and Arran	20	16	9	12	17
Argyll and Clyde	33	19	12	16	13
Forth Valley	16	12	8	7	9
Dumfries and Galloway	17	11	6	6	2
Total	**249**	**166**	**80**	**104**	**113**

DM - Disease Management

HP - Health Promotion

SM - Service Management

Some courses had more than one category

Table 1 - Courses available, origin, category and length

CHAPTER 5

CHAPTER 5

WHY EVALUATE CONTINUING MEDICAL EDUCATION?

Medicine is a rapidly changing discipline. Advances in technology have had major impact on patient treatment and investigation. The general practitioner is the gatekeeper of the National Health Service and it is he or she who decides on appropriate therapy, investigation and referral for each individual patient. Therefore, advances in any branch of medicine whether it be the isolation of the gene for Huntingdon's Chorea, the development of laparoscopic surgery or testing for Helicobacter Pylori can impinge on the doctor's day to day work.

To enable the G.P. to be "jack of all trades" and master of them too, requires constant updating. Education is therefore vital for every practitioner and is essential if a doctor is to carry out this pivotal role effectively. It is because of this level of importance that it is necessary to evaluate C.M.E. to ensure it can fulfil this role.

Continuing medical education, however, is more than just updating. If doctors are to treat patients they must have knowledge and educational activities must be capable of transferring new knowledge to a medical audience with differing learning styles and varying educational needs. The acquisition of facts is only the first step in the educational chain. It is the application of these new facts in a doctor's daily work which is important. C.M.E. should therefore be a catalyst for change and by so doing cause an improvement in the quality of patient care. The multifaceted nature of C.M.E. means that it is difficult to evaluate and

hence the dearth of literature on this subject. To be assessed properly all the links in the C.M.E. chain must be looked at and this requires a combination of qualitative and quantitative methods. This is where many of the previous studies have been flawed.

The 1990 contract has drastically changed continuing medical education in that it is now governed by a market place ethos. In the past G.P. s attended educational events because they wanted to and had a genuine interest in learning. Now, although the postgraduate education allowance is not an item of service payment, attendance at courses is income generating and may be considered by some to be an easy way of bringing money into the practice. Whether finance is a good motivation for learning and whether the educational explosion which has taken place in terms of the number of courses available has enhanced the effectiveness of C.M.E. needs to be explored. The G.P. wears many hats. Not only does he or she treat illness but they are also involved in prevention and an increasing amount of time is spent on administration and running their business. As if in recognition of this, education has been divided into Disease Management, Health Promotion and Service Management. Whether these categories represent balanced, relevant education which will improve patient care needs to be proven.

General practice is about looking after patients and yet doctors feel that they are doing this less and less as many other demands are put on their valuable time. On top of this each general practitioner in the United Kingdom is being asked to spend an average of 25 hours per year on education for a payment of £2,100. When looked at on a national scale, this is a huge investment in time and money.

We live in a "prove it" age where everything has to be justified and C.M.E. is no exception. The Government had made a financial commitment to C.M.E. based on the belief that attendance at courses will cause change for the better and improve quality of care.

It is important that we, as a profession, look closely to see what impact, if any, C.M.E. has on patient care and National Health Service resources and to evaluate the effectiveness and efficiency of the current educational arrangements. Continuing medical education is vitally important for both personal and professional development and it is essential that we get it right.

SUMMARY

The evaluation of C.M.E. is important for the following reasons:-

1. Education is vital for the personal and professional development of general practitioners in a rapidly changing world of medicine and it is important to show that it is being delivered in the most effective and efficient way.

2. There is a dearth of quality literature on the topic.

3. Finance has become a motivator for attendance at courses and education has been thrown into the marketplace.

4. A major investment in time and money has been put into the new educational arrangements and such expenditure needs to be justified.

CHAPTER 6

CHAPTER 6

OVERVIEW OF THE STUDY

The aim of this study was to look at the effectiveness of continuing medical education for general practitioners in the wake of the major contract changes in 1990.

The West of Scotland seemed an ideal setting as it contains a large number of general practitioners working in a variety of settings. There was also an educational scheme which was computerised and therefore there was easy access to information on the educational activities in the area.

The study was designed in three phases.

Phase 1 - To gather background information on all those participating in C.M.E. either consumer or provider.

Phase 2 - Evaluation of educational activities in the area.

Phase 3 - Follow up to assess effect on change of continuing medical education at a personal and practice level.

Phase 1

Before being able to evaluate the effectiveness of education it was important to look at how the contract changes had affected the doctors' educational habits, their views on the changes, their perceived needs and what type of education was being provided and by whom. This was done using three structured questionnaires.

(i) Continuing Medical Education Questionnaire.

(ii) Course Provider's Questionnaire.

(iii) Non Claimers Questionnaire.

Phase 2

This part of the study looked at the effectiveness of education by measuring change in knowledge using pre and post test MCQ's and intention to change either personally or at a practice level as a result of attending the meeting.

As well as this, questions were asked about motivation to attend and reasons for going to the meeting and a course assessment sheet was completed to gain the participant's overall impression of the standard of the meetings.

Phase 3

This final phase was carried out via a telephone interview of those attending the meetings to identify any changes in the way in which they practiced either personally or as a group practice.

The development of each of these phases, the pilot study and the results will be discussed in detail in the ensuing chapters.

CHAPTER 7

CHAPTER 7

PHASE 1 - GENERAL PRACTITIONERS VIEWS OF CONTINUING MEDICAL EDUCATION

The 1990 Contract not only changed CME but it also altered many other areas of a doctor's day to day work. The imposition of these changes was met with anger from the profession and it was difficult to know if there were specific areas which aroused more emotion than others or if the reaction was a result of "the way it was done".

Although the changes in education date back to the mid 60's and postgraduate education has slowly evolved since then, the changes of 1990 must be the most revolutionary ever experienced by the profession. Despite this there has been little written about the effect of these changes on general practice.

One of the earliest papers was in 1963, when Cartwright and Marshall surveyed general practitioners' educational needs and this was followed in 1969 by Byrne's postal survey of general practitioners in the North West Region of England. The next paper addressing doctors' views on education was in 1974 when Acheson sampled 9.5% of general practitioners in England and Wales. The response rate was low at 53% and was under-representative of young general practitioners and single handed doctors. Durno and Gill (1974) also surveyed doctors' views on postgraduate education in the north east of Scotland but their opinions were only sought in relation to the educational programme of the local faculty of the Royal College of General Practitioners. In response to this dearth of literature Reedy (1979) wrote Occasional Paper 9 on general

practitioners and postgraduate education in the northern region and gathered useful information for future planning of courses.

More recently, Pickup (1983) looked at doctors' preferences for teaching methods but the sample in this study was small. Shirriffs repeated Durno's study of doctors in the Grampian area in 1986 and in 1987, Forrest et al (1989) looked at general practitioners' views on C.M.E. as part of a process of devising a strategy for continuing education. Owen also looked at general practitioners' continuing education within and outside their practice in 1989.

The financial carrot of £2,100 has given rise to concerns as expressed by Wall and Houghton (1989) that there could be harmful effects on the quality of education available. General practitioners as educational consumers may tend to choose activities that are thought to be attractive and comfortable rather than those that they actually need to improve performance. The provision of education in this purchaser-provider environment must meet the needs of the consumers and it is therefore important to look at doctors' needs and preferences following the contract. McKnight (1992) attempted this recently but only achieved a 52% response rate.

A questionnaire was therefore designed to look in detail at general practitioners' views on the educational changes of the new contract, their preferences, practice circumstances and compare their educational habits pre and post contract.

The questionnaire was piloted to a group of randomly selected general practitioners. There appeared to be no difficulty in the design or

structure of the questions and it was used unchanged in the study. It was divided into 5 sections (Appendix 2).

1. Demographic information.
2. Practice arrangements for postgraduate education.
3. Previous educational experience.
4. Course preferences.
5. Views on the postgraduate education allowance.

The questionnaires were sent to all the general practitioners registered on the database in the West of Scotland Postgraduate Office. They were numbered at the back so that non responders would be sent a second one 6 weeks later. An explanatory letter was sent with each questionnaire (Appendix 3). On receipt, all the questionnaires were coded by the same person, double keyed and verified and analysed by computer.

Results

1959 questionnaires were sent and after a second mailing 1611 were returned giving a response rate of 82.1%. 88 were excluded (Table 1) leaving 1523 suitable for analysis.

Demographic Details

13 respondents failed to complete the first question of this section. Of the 1510 who did 1083 (71.7%) were male and 428 (28.3%) female.

1374 (90.2%) were working in the West of Scotland area, 71 (4.7%) were from other parts of the United Kingdom and 78 (5.1%) the Health Board was not known (Table 2).

1,343 (88.2%) were married, 113 (7.4%) were single, 15 (1%) were widowed and 30 (2%) were divorced, 22 (1.4%) did not answer. 812 (53.3%) worked in an urban setting, 209 (13.7%) in a rural one and 470 (30.9%) in a mixed practice. 32 failed to reply. The ratio of male to female in urban setting was 2:1, rural 4:1 and mixed setting 3:1. 1387 (91%) were full time principals, 105 (6.9%) had a 19 hour contract and 19 (1.2%) had a 13 hour contract. 23.6% of the full time doctors were women and this represented 76.6% of all female principals. 83.8% of the 19 hour contracts were held by women and 63.2% of the 13 hour ones. These figures represent 20.6% and 2.8% respectively of all female doctors who responded.

544 (35.7%) were members of a training practice and 939 (61.6%) had been vocationally trained. 484 (31.8%) had obtained the M.R.C.G.P. and 26 (1.7%) the F.R.C.G.P.. 67% of responders had been born between 1941-1960 (Figure 1) and therefore most had graduated between 1961-1980.

The total number of principals in a practice ranged from 1 to 14. 147 (9.7%) were single handed but 14 enlisted the help of an assistant. One practice had 14 full time principals. 66 (4.3%) of doctors employed assistants with 64 having 1 assistant and 2 practices employing 2 assistants. 451 doctors had partners with a 19 hour contract. The majority, 335, had only one 19 hour partner. 99 doctors worked with either 1 (81) or 2 (18) partners who had a 13 hour contract. One practice had 4 such principals with limited commitment.

Practice Arrangements for Postgraduate Education

Under the terms of the practice agreement 1120 (73.5%) of doctors were entitled to study leave and in 891 cases this had been longstanding before April 1990. Of those who had study leave 559 (49.9%) were working in an urban area, 162 (14.5%) in a rural area and 380 (33.9%) in a mixed setting. This information was missing in 9 cases. These figures represent 68.8%, 77.5% and 80.6% of all doctors working in these areas respectively.

The amount of study leave varied considerably from 1-5 days to more than 4 weeks (Table 3). The majority took up to 7 days. 174 (11.4%) always required a locum when going to a course, 480 (31.5%) occasionally did and 833 (54.7%) never. 24.4% of rural practices always employed a locum compared to 9.5% of urban and 8.3% of mixed ones. 77 (51.3%) of single handed practices always employed locums and 42 (28.6%) occasionally. The cost of the locum was borne by the practice in 518 (34%) of cases and personally by the doctors in 214 (14%) of times. The cost of the practice/partner/year varied from < £100 in 57 (3.7%) cases to > £4,000 in 11 (0.7%) cases. 2 of the latter were single handed G.P.'s

Previous Educational Experience

The majority of responders attended educational sessions pre 1989 - 1221 (80.2%). (Table 4). Of the 39 who did not attend educational sessions pre 1989, 14 were vocationally trained, 6 belonged to a training practice and 9 had the M.R.C.G.P. examination. These figures represented 1.5% of vocationally trained doctors, 1.1% of G.P.'s working in a training practice and 1.9% of those holding an M.R.C.G.P. qualification. 732

doctors went to a mixture of lecture and small group meetings. 316 (20.7%) only attended lecture type courses while a further 52 combined lectures with other educational formats. 11 doctors only attended small group meetings, 3 to practical work alone and 3 solely used practice based learning. No one used distance learning as their sole means of education. 157 doctors (16.9%) used a variety of methods and formats. 94 doctors used distance learning in combination with other things and only 17 (18%) were in a rural setting. 107 included practical work and 113 practice based learning in combination with other formats. Only 19 doctors used practice based learning in a rural setting. 183 cited a mixture of lecture and small group work as one of several types of educational formats they attended. 647 (42.5%) doctors attended meetings only outwith surgery hours pre 1989. 134 (8.8%) only used their study leave with a further 289 (19%) combining study leave with other times of the day. 32 (2.1%) used their half day only, while 129 (8.5%) used a variety of times. 301 (19.8%) were prepared to go to a meeting at any time of the day as long as the subject interested them. While 197 were prepared to use their own time, practice time and study leave.

21 (1.4%) people only attended drug company sponsored meetings while 64 were prepared to go to drug company meetings and non-commercial ones. 77.6% attending sponsored meetings were male, 52.9% worked in an urban setting, 18.8% in a rural one. 31 (36.5%) were vocationally trained, 16 (18.8%) were in training practices and 13 (15.3%) held the MRCGP.

The main motivation pre 1989 was interest in the topic for 506 (33.2%) doctors. This was followed by a need to update knowledge by 277

(18.2%) and a combination of interest and update in 179 (11.8%). The social aspect of the meetings was important for 137 (9%) of these 30 worked in a rural practice and 17 were single handed. The sessional value for claiming the old postgraduate training allowance was mentioned by 58 (3.8%). Educational needs, accessibility of the meetings, practice policy, reason to get away from work, habit, the type of venue and the quality of food were the motivations for a small number of doctors.

Course Preferences

The most preferred type of teaching was a mixture of lecture, small group work and practical work. The least preferred option was distance learning and practice based learning (Table 5). There was no preference shown for distance learning by doctors working in an isolated setting compared to those elsewhere. However, practice based learning was supported by 21.4% of mixed practices and 19.1% of rural ones compared to 15.5% of urban doctors. When choosing a course the most important influencing factor for 1383 (90.8%) was the content followed by personal interest in the topic 1260 (82.7%) and accreditation for PGEA in 1183 (77.7%). The least influential factors were the identity of the organiser, 1031 (67.7%), the venue 856 (56.2%) and the cost of the meeting 559 (36.7%).

In those who said that the timing of the meeting was important, the most preferred option supported by 1016 (66.7%) of doctors was an evening meeting. Afternoon meetings were second choice 801 (52.6%) and then full day meetings 752 (49.4%). The least popular were morning meetings 884 (58%), then lunch time meetings 739 (48.5%), meetings of 2-3 days duration 734 (48.2%) and weekend meetings 703 (46.2%).

The most popular day of the week to hold a meeting was a Wednesday and the least popular Monday with only 386 (25.3%) supporting it. Thursday was the second most popular followed by Friday then Tuesday. The afternoons were much more popular than the mornings and there was some support for weekend days (Table 6).

Views on Postgraduate Education Allowance

933 (61.3%) regularly attended postgraduate meetings before the contract changes. 478 (31.4%) did so infrequently, 27 (1.8%) never did and in 85 (5.6%) it was not applicable. Of the 27 who had not attended, 9 were female, 4 worked in a mixed area, 8 rural and 15 urban. 8 (29.6%) were vocationally trained, 4 worked in a training practice and 2 held the M.R.C.G.P.. Following the introduction of the contract 241 (15.8%) intended to do 10 educational sessions each year, 148 (9.7%) intended to do as many each year as they could but no more than they were required to do for PGEA. 1109 (72.8%) intended to do more than 10 sessions, 11 (0.7%) did not intend to participate and 14 failed to respond. Of the 11 not intending to go to educational meetings 1 was female, 1 was vocationally trained, none belonged to a training practice, none had their M.R.C.G.P., 4 worked in a rural practice, 1 mixed, 5 urban and in 1 the information was not known.

1485 (97.5%) of G.P.'s had been to postgraduate meetings since April 1990. 28 (1.8%) had not. These were predominantly males, 18 from urban practices, 12 were vocationally trained and 8 from training practices and 6 had the M.R.C.G.P.

1140 (74.9%) of those attending felt that the meetings had changed their clinical practice in some way. 527 (34.6%) felt that disease management courses had been the most influential followed by disease management and service management in 197 (12.9%) cases and a combination of Disease Management, Service Management and Health Promotion in 157 (10.3%). 88 (5.8%) felt that Service Management alone had altered their clinical practice while 34 (2.2%) favoured Health Promotion. 46 (3%) were unable to specify and a small number favoured other combinations of category. Of the 329 who felt that there had been no influence on them, 192 felt that there should have been, 123 were happy that the courses had not influenced them, 3 had not felt any change but had been encouraged to read more and 11 did not respond. The main influence was on increasing knowledge in 350 (23%) cases, followed by clinical care 206 (13.5%), prescribing 192 (12.6%) and management skills 124 (8.1%). 91 felt that the courses had enabled them to set up clinics, while in only a small number were referrals and investigation affected. 1 (0.13%) had left their practice following a course and 9 (0.6%) couldn't remember what influence it had on them. Disease Management had by far the biggest influence on knowledge (160) followed by prescribing (139) and clinical care (121). Service Management's main influence was in management skills - 58 with little or no influence in any other area. Health Promotion had little effect. Only 16 doctors felt it had caused a change in their clinics, while 34 felt that Disease Management had also influenced this area.

Respondents were specially asked "What are your views on the new postgraduate education requirements for General Practitioners"? 117 (7.7%) failed to respond. 761 (50%) felt that it was a good thing but of these 108 (7.1%) did not like the compulsion and 10 (0.7%) commented

on the good social contact of the meeting. 297 (19.5%) did not like the educational changes - 109 (7.2%) felt that it was a waste of time, 68 (4.5%) felt it was time consuming, 82 (5.4%) rebelled against the bureaucratic coercion, 30 (2%) were concerned that it decreased individual choice and 8 (0.5%) said their views were unprintable.

60 (3.9%) were concerned that quality had been sacrificed for quantity. 197 (12.9%) commented on the financial aspect of the arrangements. 83 (5.4%) felt that doctors would only go for the money, 34 (2.2%) felt that it would cost them more to go than they would get back, 62 (4.1%) did not like the financial carrot and 18 (1.2%) wanted to keep the old seniority allowance. 13 of the 34 doctors who felt that they would lose money from PGEA participation were from rural practices. 33 (2.2%) felt that the categories were nonsense while 1 (0.1%) wanted more disease management and health promotion. 53 (3.5%) were critical of the structure of the postgraduate education allowance with 3 (0.2%) wanting a better definition of a course, 6 (0.4%) wanting a session to be reduced in time, 19 (1.2%) wanting less sessions to be counted towards PGEA. 10 (0.7%) felt it would be difficult to keep an interesting programme going over a 5 year period and 19 (1.2%) felt that the arrangements were complex and not well thought out.

Obviously the categorisation of responses for coding loses the flavour of the general practitioner's mood. Below are some quotations received which outline the strength of feeling of the G.P.'s.

"They have placed a financial obligation where before there was a professional obligation".

"I think a financial incentive to attend is a good idea - after all, we are human".

"Frankly total nonsense and in particular many of the courses run by the medical education committee are a total waste of time - especially those involving group work and those chaired and organised by G.P.'s".

"Find them an obligatory nonsense".

"I like going to courses but do not like feeling it is compulsory".

"Too much emphasis on non medical topics. I'm sure the patients would prefer us to keep up to date medically instead of being businessmen".

"CRAP". "Unprintable". "Load of rubbish".

"Bring back the good old days when you could legitimately follow a clinical interest".

"I think it is a disgrace, and that we have been sold down the river by our negotiators. I resent university academics who have not done much G.P. recently, if ever, having power to accredit courses".

"Have reduced postgraduate education to gaining points rather than knowledge".

"Unhappy. Categories are ridiculous, can cover all 3 areas in 5 minutes".

"An unnecessary imposition on the G.P.'s time.

- a robbing of seniority payments.
- compulsory attendance to hear waffle from experienced wafflers.
- occasional rare glimpse of something useful."

403 (26.5%) did not respond when asked, "In what way would you change the current arrangements to increase the value of the courses to you?". 87 (5.7%) expressed their preference for different types of meetings e.g. private reading to be accredited 6, more distance learning 7, more practical sessions 35, more practice based learning 14. Of those who wished more distance learning 4 were in a rural practice and for practice based learning 1 was isolated while 10 were urban.

98 (6.4%) wanted improved timing of meetings with 45 (3%) wanting more 5 day courses and 39 (2.6%) more evenings. The supporters of the 5 day courses were evenly spread across rural, mixed and urban with 14, 15 and 16 doctors wanting this respectively.

269 (17.7%) felt that no changes were necessary. 39 (2.6%) commented on the structure of the meeting e.g. 18 wanted to decrease the number and length of sessions. The content of the meeting was important to 159 (10.4%) and many of these comments referred to quality control. 121 (7.9%) commented specifically on the categories with 97 wanting to abandon them while 5 wanted to increase Service Management and Health Promotion. 91 (6%) dealt with financial aspects. 26 (1.7%) wanted a government funded sabbatical while 39 (2.6%) wanted improved funding for travel and locums. Most of the doctors commenting on these aspects were from urban practices.

33 (2.2%) felt that the compulsive element should be removed and 63 (4.1%) felt that the PGEA system should be abolished. 25 (1.6%) felt that accreditation should be banned or the government changed. 67 (4.4%) wanted more local courses - 21 were rural doctors, 23 were from a mixed area and 23 urban. 18 (1.2%) felt that more course information in the West of Scotland booklet would be helpful. 1 (0.1%) wanted less food to be available and 3 (0.2%) requested more creche facilities. Again the actual quotations spoke volumes of the depth of feeling.

"Abolish them. They are of no real value to G.P.'s at all. One can learn more from reading".

"Update". "The present system is jobs for the boys".

"Bring on the dancing girls".

"Sorry. I couldn't care less".

"Cancel them". "Abolish PGEA".

"People who organise them are doing a good job ..... people who complain should be doing it themselves".

"Emigrate. The beaurocrats have us by the short and curlys".

"By improving on the imbeciles who control the Government Health plan".

"Chop the heads off the bureaucrats".

"Hang Kenneth Clarke".

"Hang Michael Forsythe".

Discussion

Continuing education provides us with an opportunity to maintain and improve our personal clinical skills with the ultimate aim of improving patient care. It is an essential part of a doctor's professional development and yet it is probably fair to say that the educational consequences in the new contract have been lost among our concerns and anxieties for the implications for delivery of care. This is reflected in the dearth of literature on this topic. This study would appear to be one of the largest surveys carried out with a high response rate, looking in depth at a range of issues affecting general practitioners' views and preferences of postgraduate education post contract. Although the majority of respondents were based in the West of Scotland it covered a range of ages, practice type, practice style and circumstances that should be representative of doctors in other areas of the United Kingdom. The high response rate from such a lengthy questionnaire underlines the importance of this topic to doctors.

Although the educational changes took place on 1st April 1990, the doctors were asked about their learning habits before 1989 as 1989/90 was a transitional year when general practitioners could `catch up' and gain enough sessions to claim both the old seniority allowance and the new postgraduate education allowance. This 12 month period was therefore atypical in terms of a doctor's normal educational pattern.

The new educational arrangements do seem to have formalised study leave provision within practices with a further 15% having this facility at their disposal post contract with the biggest percentage of practices having it being in the more isolated areas. Despite 58.5% having study leave pre contract most doctors attended meetings outwith surgery hours presumably because there was less pressure on them to obtain a certain number of sessions per year or it was thought to be less disruptive to the practice.

When doctors were away on courses it would appear that their partners coped with the extra workload as only 11.4% of doctors always employed a locum and 31.5% occasionally. Locums were more likely to be employed by rural practitioners. 29.1% of single handed doctors never employed a locum and must have used their own time to go to courses or perhaps had assistants working in the practice. The low use of locums may stem from the fact that it is often difficult to get a suitable locum but also that the rising cost of locums may be greater than the financial benefit of the postgraduate education allowance. 37 doctors, 13 of whom were single handed spent more than £2,000 per year on locum cover. 11.3% of respondents expressed their view that the education arrangements were poorly funded and that they were financially penalised by attending meetings.

The high response rate in this study means that different types of practices and doctors, including women, are well represented in this study. Female doctors now have greater flexibility in the number of hours they work and although the largest percentage of part-timers were women a considerable number also held 26 hour contracts. Despite working less than full time they still have to do 10 sessions of

education to qualify for the allowance and they are more likely to meet this requirement than their male colleagues. This is supported by previous work in low attenders by Murray et al (1991). Most women appear to work in an urban or mixed setting where proximity to an educational centre may facilitate their attendance at meetings.

It is encouraging that 97.5% of respondents had participated in postgraduate education since April 1990. 28 had not been to a course at the time of the questionnaire but the fact that only 11 did not intend to go in the future would suggest that some doctors were going to catch up on their sessions and may have been giving priority to other aspects of the contract. The non attenders pre and post contract tended to be male, not vocationally trained nor working in a training practice, nor hold the M.R.C.G.P. It would appear that these factors as described by Murray et al (1992) act as a catalyst for ongoing personal development.

The educational changes of 1990 have been heralded by the Government as new and innovative but postgraduate education was well supported pre 1989 with 61.3% regularly attending and 31.4% infrequently. These figures are higher than those obtained when asking specifically about number of sessions attended per year when 80.1% did >1 per year. This may be because the "sessional" concept is a new one and doctors did not have to strictly count the meetings they attended pre 1990. The main motivators for attending a meeting pre contract were interest and to update knowledge (63.2%). Finance was not a strong motivator at this time but when asked what influenced their choice now, content and interest still rated very highly but accreditation for postgraduate education allowance was mentioned in 77.7%.

If nothing else, the financial incentive does seem to have encouraged attendance at meetings. Attendance, of course, does not equate with learning and increased knowledge and skills. Sibley (1982) suggested that in some situations continuing medical education does not work when, for example, the doctors are compelled to attend and are not allowed to select their own areas of high preference. There is evidence in this study that 74.9% felt that their clinical practice had been altered in some way by attending meetings mainly in the areas of knowledge, clinical care, prescribing and management skills. Disease management courses seemed to be the most influential especially on knowledge, prescribing and clinical care. This may be because there are many more of these courses available compared to the other categories but they tend to be more factual and relevant to a doctor's day to day work and general practitioners may feel more comfortable with these topics. It may also reflect the fact that this type of teaching reflects their undergraduate and vocational training which tends to be Disease Management based.

Despite the many changes in general practice which come under the banner of Service Management and Health Promotion, courses in each of these categories had little influence on clinical practice. This was emphasised by the fact that Disease Management had a greater effect on organisation and content of clinics in practice than Health Promotion. Courses on management skills and Health Promotion are new to general practitioners and therefore may be treated with suspicion but it may be that doctors have already incorporated the necessary contract changes into their practice before coming to these meetings and are learning no new information but have to attend to achieve a correct educational balance for the allowance. It is important to point out that these results

are subjective being based on opinion and memory and in no way represents an objective evaluation of the effectiveness of continuing medical education. It certainly raises questions about the provision of education and perhaps as suggested by 2.2% of the respondents, the categories are nonsense and should either be reviewed or abolished.

Perhaps it is not the categorisation of education which hinders learning but the format of these meetings. Simpson (1972) has shown that formal didactic teaching is an inefficient form of improving knowledge and yet Durno & Gill (1974) found that the lecture still scores highly among the general practitioners. Only a small number of doctors favoured distance learning and practice based learning, although the latter was supported by 21.4% of mixed and 19.1% of rural practices compared to 15.5% of urban doctors. These numbers remain disappointingly small although practice based learning was better supported than distance learning. They both have many advantages for the isolated doctor in that they do not disrupt the practice and no locum is needed. It is more solitary than attending meetings but it does not appear that this is a deterrent as social contact was highlighted as important by 9% and this included only a small number of rural and single handed doctors. It may therefore be a conscious decision not to use these methods or lack of knowledge of these techniques.

Although it is impossible to create an educational programme to suit each individual it is important to consult the consumer and some valuable information on the timing of the meetings has emerged. For 66.7%, evening meetings were the most suitable. This has increased since the previous studies by Acheson (1974) thus emphasising the attempt to avoid using practice time which now is a rare commodity.

There was a fall in popularity of the lunch time meetings and meetings of 2-3 days duration compared to the findings of Acheson & Durno. The lunch time meeting is worth one third of a session and this may not justify the effort involved in trying to attend. More than half of the doctors were unwilling to sacrifice their recreational time and only 46.2% supported weekend meetings. As in McKnight's (1992) study, Wednesdays and Thursdays were the most popular days probably as they tend to be the quieter days of the working week and most likely to coincide with the doctor's half days when their absence from work will not leave the practice short handed.

The contract certainly caused a great deal of anger among the profession and this was reflected in the venom with which some doctors completed this questionnaire. Comments such as "We were sold up the river by the negotiators" and "Chop the heads off the bureaucrats" were typical of what was received. 50% felt that the educational change was good but there was a distinct background of unrest with coercion, limitation of choice and waste of time causing the most concern. This is not a good climate in which to encourage learning and is borne out by the fact that quality was mentioned by only 3.9% when asked what changes could make postgraduate education more valuable. 44% said no change or had no response. Content which was one of the biggest motivators was an issue for only 10.4%.

If attendance has been anything to go by then postgraduate education has been successful but it is necessary to look beyond this at the value to the individual doctor. There is an undercurrent of dissatisfaction and doubts must be raised as to whether the current arrangements satisfy the educational needs of the general practitioners. Undoubtedly there is

great difficulty in producing an educational programme to suit such a large number of individuals but we can by listening to the consumers provide local courses at appropriate times and target these to certain areas. The rural and single handed doctors have been shown to have particular problems such as isolation, difficulty in obtaining locums and the cost of obtaining such cover.

Continuing medical education finds itself in a competitive market place and education is also being provided by drug company and commercial companies. Only 85 (5.6%) of doctors attended such courses pre contract. The fact that they tended to be older and thefore not vocationally trained, not working in training practices and not holders of the MRCGP raises questions as to the motivation of these doctors and the educational value of these meetings. The preference of doctors for lecture type meetings and the prevalence of them indicates that many educational lessons have not been learned. It is important that learning should be active rather than passive and this will require education of the course providers and a change in attitude of the general practitioner consumers.

SUMMARY

Linking a financial carrot to postgraduate education has increased attendances at meetings despite the strong negative reactions expressed by many of the doctors in response to the changes. Practices have also formalised study leave arrangements but the rural and single-handed doctors have problems with isolation and difficulty in funding the cost and the availability of locums.

There was subjective evidence that attendance had influenced clinical practice with Disease Management being more influential than either Service Management or Health Promotion.

Although the structure of CME has changed there appears to be little impact on the format of the meetings with the traditional lecture being the most popular. It is difficult to design an educational programme to cater to all tastes, but there do seem to be preferences for specific timing of meetings, namely, evenings and afternoons with Wednesday and Thursdays being the most popular days.

Reasons	No.	% of Respondents
Retired	36	2.2
Not applicable, eg. trainee, researcher	19	1.8
Left practice	19	1.8
Maternity leave	3	0.2
Wrong address	5	0.3
Died	6	0.4
Total	88	

Table 1 - Respondents excluded from analysis.

Health Board Total	Total No. GP's	No. Responding	% Responders	% GPs
Greater Glasgow	626	459	30.1	73.3
Lanarkshire	332	238	15.6	71.7
Argyll & Clyde	310	238	15.6	76.8
Ayrshire & Arran	258	202	13.3	78.3
Forth Valley	188	143	9.4	76.1
Dumfries & Galloway	116	94	6.2	81.0
Other parts of U.K.	-	71	4.7	-
Not known	-	78	5.1	-
Total		1523	100.0	

Table 2 - Health Boards of the Responders

Amount of Study Leave	Number	%
No Response	389	25.5
1-5 days	307	20.2
6-7 days	522	34.3
8-14 days	155	10.2
15-28 days	15	1.0
>4 weeks	7	0.5
Variable	71	4.7
Unlimited	20	1.3
Not known	37	2.4
Total	1523	100.0

Table 3 - Amount of Study Leave of Responders

	Setting					
No. of Sessions	**Urban**	**Rural**	**Mixed**	**N.K.**	**Total**	**(%)**
0	21	9	7	2	39	(2.6)
1-5	208	39	102	6	355	(23.3)
6-10	249	83	166	7	505	(33.2)
>10	176	49	130	6	361	(23.7)
Don't know	14	3	7	2	26	(1.7)
Not applicable	92	16	33	3	144	(9.5)
No response	52	10	25	6	93	(6.0)
Total	812	209	470	32	1535	(100.0)

Table 4 - Number of sessions pre 1989 by practice setting

N.K. = Not Known

Type of Teaching	Least Preferred	Not Preferred	Equivocal	Preferred	Most Preferred	No Response
	%	%	%	%	%	%
Format lecture	113 (7.4)	206 (13.5)	418 (27.4)	383 (25.1)	329 (21.6)	74 (4.9)
Small group work	118 (7.7)	199 (13.1)	396 (26.0)	477 (31.3)	239 (15.7)	94 (6.4)
Practical work	100 (6.6)	197 (12.9)	480 (31.5)	434 (28.5)	158 (10.4)	154 (10.1)
Mixture of above	79 (5.2)	97 (6.4)	285 (18.7)	348 (22.8)	543 (35.7)	171 (11.2)
Distance Learning	715 (46.9)	305 (20.0)	162 (10.6)	118 (7.7)	72 (4.7)	151 (9.9)
Practice based learning	371 (24.4)	360 (23.6)	360 (23.6)	205 (13.5)	68 (4.5)	159 (10.4)

Table 5 - Preferred type of teaching

Day of the Week	am (%)	pm (%)
Monday	114 (7.5)	272 (17.9)
Tuesday	219 (14.4)	576 (37.8)
Wednesday	301 (19.8)	774 (50.8)
Thursday	295 (19.4)	644 (42.3)
Friday	298 (19.6)	527 (34.6)
Saturday	380 (25.0)	380 (25.0)
Sunday	357 (23.4)	366 (24.0)

Table 6 - Preferred day of the week

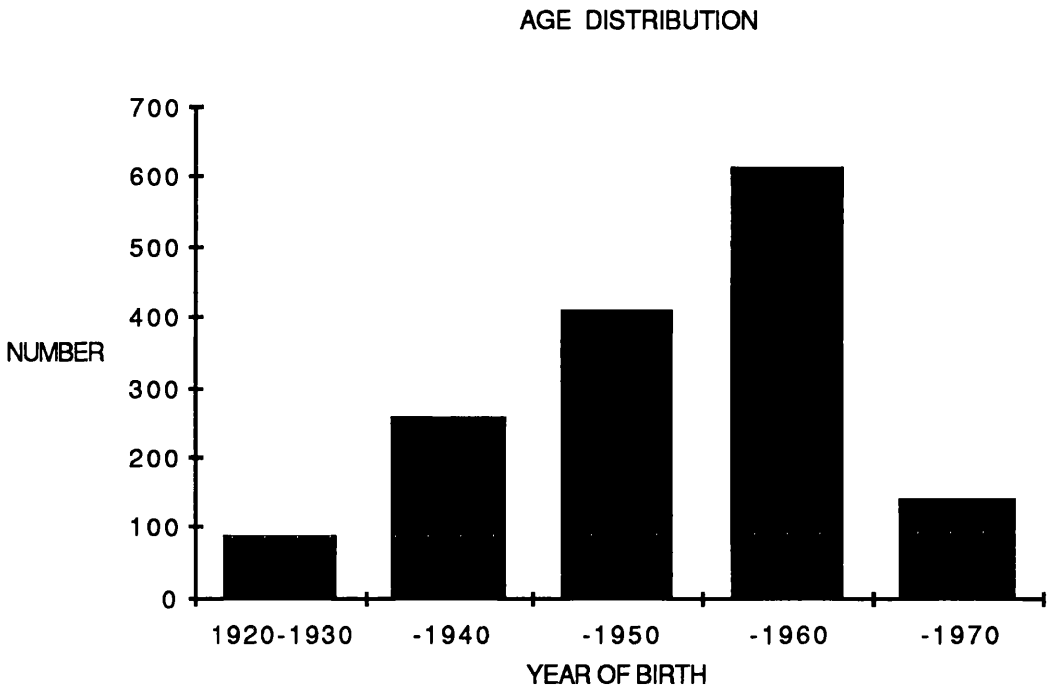


Figure 1 - Age distribution of responders

CHAPTER 8

CHAPTER 8

PHASE I - WHO ARE THE PROVIDERS OF MEDICAL EDUCATION?

Education can be delivered in many ways, some more effective than others. The format is most often decided by the person organising the meeting and therefore he or she plays a key role in influencing the quality of educational events.

Samways (1977) investigated the role of the Postgraduate Tutor in providing education for General Practitioners and found that their functions were best described as administrative rather than educational. It was evident that the Tutors did not have the necessary information required for planning educational courses and as a result these activities were based on ideas and opinions rather than fact.

Even today in the West of Scotland, apart from the criteria which have been developed for accreditation, there are few guidelines on the organisation of such courses and the most important credential would appear to be a willingness to do so.

In recent years a core of Hospital Consultants and General Practitioners have given time and expertise to update family doctors mainly in the area of clinical medicine. The new contract, although making sweeping changes to C.M.E. did not address the needs of the providers who now face new challenges in the educational market place (Bahrami, 1993).

Who are the providers of postgraduate education? What are their views, their background, their motivation and needs? To answer these questions a structured questionnaire was sent with a covering letter (Appendix 4) to all the course providers on the computerised database in the postgraduate office.

Method

The questionnaire (Appendix 5) was developed to look at the various aspects involved in organising courses, the background and experience of the organisers, their preferred method of teaching and the support and resources at their disposal. It was piloted among a small group of providers and no changes were made. It was divided into 5 sections. Section 1 was related to demographic information and included aspects such as previous training and teaching experience. Section 2 dealt with the organisation of courses including the format of meetings, choice of speaker and subject and timing, and factors which influence these. Other sections included choice of venue and pre course preparation and post course assessment. The final section was a general one looking at secretarial backup, knowledge of accreditation, motivation and views on future training.

This questionnaire covered a large number of topics and to keep it as short as possible and encourage a good response rate the majority of questions could be answered by Yes/No or by taking the most appropriate answer from a given set of responses. A small number of open questions were included. In some of these questions more than one response was allowed and therefore some results will add up to more than 100%.

Results

A total of 254 questionnaires were sent. 225 replies were obtained after a second mailing giving a response rate of 88.6%. 30 replies were found not to be applicable. These were therefore excluded giving a total of 195 for analysis.

Demographic Information

Course Providers came from a variety of backgrounds with the majority being from general practice. 29 (14.9%) categorised as other included nursing administrators, public health consultants and university academics.

Of the group studied 119 (61%) had organised courses pre 1990. Of the 73 "new organisers" 39 (54%) were general practitioners and 14 (19.4%) were hospital consultants. (Table 1). Only 57 (29.3%) had training for organising courses. 133 (68.2%) did not, with 5 failing to reply.

Of those who had training 27 were general practitioners and 8 were hospital consultants. All pharmaceutical industry employees and those from the commercial companies had received special training. The type of training varied enormously with the majority 17 (3.7%) considering their previous experience in organising courses as being adequate (Table 2).

In contrast 165 (84.6%) had some teaching experience with 27 (13.8%) having none. The number of general practitioners with teaching experience was 89, ie. 88.1% of all G.P. course providers. 45 hospital colleagues had teaching experience and this represented 95.7% of all

consultant providers. The most common combination was that of undergraduate, trainee and postgraduate with 33 (16.9%) course providers having experience in these three areas. Figure 1 shows the teaching experience in each of these areas between the general practitioners and the hospital consultants. Almost all (93.6%) hospital consultants had experience teaching the undergraduate and the postgraduate with less exposure to vocational trainees whereas 70.2% of general practitioners had taught undergraduates and 68.3% vocational trainees but were less experienced with other postgraduates.

Organisation Of Courses

Eighty five (43.6%) course providers felt that the new contract had altered the way in which they organised courses, 85 (43.6%) did not and 25 (12.8%) did not know. The main influence was an administrative one in that courses had to be more structured to comply with the regulations for accreditation. Factors influencing content were highlighted by only 21 (10.7%) providers. These included covering specialist topics in a more planned way, increasing G.P. involvement, integrating and including other health professionals, more tutorial style with fewer lectures and making the content more relevant to practice.

The type of speaker used according to course provider background is shown in Table 3. None of the providers who were hospital consultants only invited general practitioners to speak at their meetings. 63% of course providers included general practitioners as speakers and 73.8% of course providers invited hospital consultants as speakers. The main factors influencing the choice of speakers in 152 cases was that they were an expert in the field, known to be a good speaker (128) and was highly recommended in 96 cases.

The choice of subject for the courses was mainly influenced by their own personal interest in the subject (116) and a response to need (113). 85 people were stimulated by the subject because they were a specialist in that field. 64 were invited to organise courses in certain areas while 17 admitted that their stimulus was lack of knowledge in the subject. The most popular combination of reasons were specialist in the area, interest in the topic and response to need.

One hundred and sixteen providers normally used a mixture of lecture and small group work. 58 used lectures alone, 11 small group work alone, 41 had practical based sessions and 6 distance learning. 36.9% of hospital based organisers favoured lectures only, and 26% a mixture of lecture plus small group work. This compares to 23.7% and 62.5% of G.P. organisers respectively.

One hundred and forty one (72.3%) had a preference in organising meetings of a particular length. (Table 4)

49.5% of G.P. providers were keen to do evening meetings with 18.8% preferring a half day meeting. On the other hand the hospital consultants were fairly evenly spread between half day, evening and full day courses - 25.5%, 27.6% and 23.4% respectively preferring to organise educational activities at these times.

Choice Of Venue

Sixty providers felt that a postgraduate centre was the only appropriate place to hold a meeting, a further 42 felt that such a centre was ideal but were willing to use other venues. 45 had used lecture theatres, 45 a

hotel, 30 a health centre and 27 had considered other venues such as an assessment unit and hospices. The decision of which venue to choose was mainly influenced by proximity (145), audio-visual facilities (117) and comfort (85). Purpose built venues were thought important in 56 cases but novelty value was cited in only 4 cases. 7 providers felt that other factors such as parking, catering, accommodation and cost were important.

Method

Eighty three course providers (42.6%) gave guidance to their speakers on subject content, timing, type of audience, numbers attending, audio-visual equipment available, full programme details and aims and objectives of the course.

Of the 171 who responded to this question 170 (99.4%) included timing in their instructions to speakers, 169 (98.8%) included information on audio-visual equipment, 165 (84.6%) on content, 164 (84.1%) on type of audience, 146 (74.9%) on numbers attending, 131 (67.1%) gave full programme details and 122 (62.6%) gave aims and objectives. 143 organisers included 5 or more of the above instructions and 28 gave 4 or less.

Pre Course Material

Sixty four (32.8%) used pre course material. Of these 32 (50%) were general practitioners and 10 (15.6%) were hospital consultants. All providers from commercial companies used pre course material. Of those who used it 20 had it prepared by the speaker or chairman, 32 prepared it themselves, 8 by the medical department of their company, 1 by the Regional Adviser, 1 by a committee, 1 by the participants and 1

by a secretary. Only 37 felt it was useful, 14 did not and 13 did not know.

Post Course Assessment

Ninety nine (50.7%) used post course assessment. Of these 50 were G.P.s and 18 consultants. All pharmaceutical companies used it and 5 out of the 7 commercial companies. 59 prepared this themselves, 11 carried out an interactive question and answer session, 4 had it prepared by a University department, 2 by a postgraduate tutor, 1 by the organising committee, 6 by a speaker, 7 by the company medical department, 1 by RCGP, 2 by their medical society and 6 did not specify.

Sixty one used this information for future improvements, 7 to change venues, 2 compared attitudes and knowledge pre and post course, 4 adapted the course to meet needs more appropriately, 1 used it for personal education, 5 for feedback to speakers, the remainder did not specify. 123 (63.1%) were in favour of a standardised assessment. Those who were not felt that the courses were too varied and that a standard form would not take account of local need.

Accreditation

One hundred and sixty five (84.6%) were aware of the rules surrounding course accreditation, 16 (8.2%) were not, 14 (7.2%) failed to respond.

Secretarial Assistance

Secretarial work was carried out by a wide variety of people. (Table 5) 42 (21.5%) were doing their own secretarial work and 56 (28.7%),

presumably G.P.s were using their own health centre or practice staff to assist them.

Motivation

Motives for organising courses were many and varied. (Table 6) The less popular reasons included the provision of local meetings, an opportunity to meet other G.P.s and financial gain. 36.6% of G.P. organisers highlighted interest and enjoyment as their motivation compared to 4.3% of hospital consultants. Their main motivation would appear to be educational need and promotion of their subject.

Future Training

Eighty nine (45.6%) felt that there was enough central direction in organising courses, 40 (20.5%) felt there was not, 55 (28.2%) did not know and 11 (5.6%) did not respond.

One hundred and thirty four (68.7%) providers thought that there should be special training for this area. 129 (66.2%) would be interested in going to such a course, 46 (23.6%) felt this was not necessary, 8 (4.1%) did not know and 12 (6.2%) failed to respond.

70.3% of the general practitioner providers thought that special training was essential and 65.9% of hospital consultants agreed with this statement.

Discussion

As Wood (1988) has stated continuing medical education is seen as an important means of improving and updating general practitioners' knowledge and ultimately clinical care. As well as benefits for the

health service the doctors can obtain a greater professional satisfaction by achieving higher clinical standards, learning from the shared experiences of their peers and adopting a more questioning approach to their day to day work. Course providers have a key part to play in achieving this goal. Until now no-one has had clearly defined responsibility for developing continuing education in general practice and until the 1990 Contract it was regarded as light entertainment or an optional extra as reported by Schofield (1982) rather than good practice. The new contract does not mention general practice tutors, course organisers or associate advisers. As Wood pointed out, if education is to be effective it must be based on the work we do and where we do it. It would therefore seem essential that activities provided should derive mainly from the input of general practitioners and practices rather than the output of specialists and other non-GPs. In the West of Scotland there is a wide range of people providing education for GPs with only 51.8% of these being family practitioners. General practice is a multi-disciplinary speciality and it has been necessary and only right to draw from experience in other fields such as commercial companies, health board administrators, nursing colleagues etc. to meet the needs of the health promotion and service management categories. Almost one quarter of course providers are hospital consultants. Whitfield (1980) carried out a survey of consultants and showed that they had little knowledge of the true content of a general practitioner's work. Yet, they are not only organising courses but are also the prime educators in a considerable proportion of the meetings. Although hospital colleagues are a valuable resource of knowledge they not only lack experience of primary care but often have little training in educational methods. The future challenge must be to make better use of the

consultant's expertise in the continuing education of general practitioners.

The lack of general practitioner input into continuing medical education may be a result of lack of time but may also reflect the fact that GPs feel that they are ill equipped to take on these responsibilities. Only 45.6% of all providers felt that there was enough central direction on organising courses and only a small percentage of providers (29.3%) had received any formal training and the training available was extremely varied. The hospital consultants were no more likely to have received special training than the G.P.s. This has been supported by similar findings by Berrington and Varman (1987) where lack of training was found to be one of several obstacles to the development of the provider's role. All the pharmaceutical industry employees and those working for commercial companies had received special structured training whereas 17 of the 35 medical providers who had training felt that their previous experience in organising courses was adequate. This implies that some providers see their educational remit as a very narrow one. Whether the low level of training reflects a dearth of suitable courses or simply lack of time is unclear but providers feel there is a need for such training with 68.7% expressing the opinion that it was important and two thirds being keen to go on such courses. Training should include not only information on how to organise educational meetings but look at assessing educational needs, evaluating the education provided and how to encourage general practitioners to develop their own personal educational plan. In this way the providers can effectively expand their role to be counsellors, advisers and an educational resource for their colleagues. Gambrill (1986) also supported this concept when he pointed out the necessity of

having trained group leaders to improve the effectiveness of small group work. Despite what is known about educational methods this study revealed a large number of lecture style courses still being preferred by the course providers especially the hospital consultants. It may be that these are easier to organise especially with the time constraints being placed on our colleagues by contractual changes but they do not cater for the different learning styles of the consumer and may reflect the learning style of the organiser. As Badlay and Lee (1987) pointed out the topics taught in `expert' lectures reflect hospital and personal interests and are aimed at the transfer of knowledge rather than working problems in general practice. Only 41 providers were involved in practice based learning. It is a concept with which general practitioners and providers are unfamiliar and perhaps uncomfortable and yet it has a great deal to commend it being less hierarchical and didactic than the formal lecture, takes place in the GP's working environment, is economical to run and provides an excellent opportunity to exchange experiences with their peers.

The main reason for choosing a particular subject was influenced by the providers' personal interest followed by a response to need. This would suggest that the courses are being arranged to suit the organisers rather than the consumers and the perceived need may be totally different from that of the individual doctor. This is an area which has been neglected and it should be the providers' role to identify need before planning an educational programme otherwise GPs will vote with their feet as shown by Byrne (1980) who found that falling attendances were related to poor relevance of programme content and inappropriate educational techniques employed by organisers. The new accreditation criteria, of which 8.2% were unaware, had little effect on course content

(10.7%) but the major impact was on administration. This is disappointing as the main reason for the changes in education was to encourage doctors to participate and ultimately enhance clinical care but despite the major upheaval in the postgraduate area there has been little change in the delivery of medical education.

The timing of courses was highlighted as being very important with 72.3% having a preference for organising a meeting of a particular length. The majority preferred to organise evening, lunch time or half day meetings emphasising that the providers, especially GPs, are working under tight schedules with a large percentage keen to organise courses with minimal disruption to their working week. It would therefore appear that the timing of courses is to fit in with organiser's schedule rather than the consumer and this may be important for the more isolated, rural doctors who could be disadvantaged by an excess of half day and evening meetings when they would perhaps find weekends or meetings of 2 to 3 days in a row more convenient. This finding adds weight to the argument that providers should have protected time to carry out this very important work.

As well as having a major input into the provision of courses hospital consultants were the principal speakers at the meetings with 73.8% of providers including them in their programmes. The main factor influencing the choice of speakers was that they were expert in their field. This implies that GPs are seen more as generalists than experts but it may also be that family doctors are less familiar with public speaking than their hospital colleagues. It may also explain why organisers from the hospital sector are less likely to include G.P.s in their programmes. The role of teacher is one which is more

traditionally attributed to consultants than to GPs and yet the study has shown that 88.1% of GP course providers had teaching experience both with undergraduate and vocational trainees. Although the consultants had greater experience in teaching postgraduates these were most likely to be hospital based and they had little teaching contact with vocational trainees. It may be that training for presentation skills for general practitioners would enable the talents of these doctors to be more fully utilised and give them confidence to take on more responsibility for their own education.

There was wide variation in the type of instruction given to the speaker beforehand with only 62.6% of providers giving information on the aims and objectives of the course. This is an important finding as many non medical speakers may have little insight into the workings of general practice and unless they are given advice as to the needs of their audience the content may be irrelevant. Again this raises the question of proper training or perhaps guidelines which could be issued to all providers, Taylor (1977). Abrahamson (1968) pointed out as far back as 1968, the need for good evaluation and yet only one half of the providers were routinely carrying this out with the G.P. organisers being more likely to do it than hospital ones and it was being done in a variety of ways. Not only will this provide valuable feedback on the course but it will reinforce learning and enable new objectives to be set. As a result of the contract we have courses in abundance but the quality of these learning processes require to be monitored and they should be carefully checked to ensure that they are relevant to general practice. Only one third (32.8%) used pre course preparation and yet all the commercial companies saw this as a valuable element to aid the learning process.

The provision of effective education not only requires properly trained providers but also a good administrative back up. Organising courses can be time consuming and can involve a great deal of work. This study showed that 21.5% of providers were doing their own secretarial work and a further 28.7% were using their own health centre and practice staff. Some areas have continuing medical education tutors with appropriate back-up but this finding would suggest that the majority of the providers in the West of Scotland are not part of any official network and have limited secretarial assistance. This was supported by the finding that their main motivation was response to an educational need and only 15.4% felt it was part of their job. There is a willingness and enthusiasm to arrange courses especially among general practice providers but unless it is harnessed in a more professional way the education will be ineffective. We have a group of experts in their fields who are willing to provide medical education. They must be supported by educational funding, protected time, improved remuneration and secretarial backup.

SUMMARY

The provision of continuing medical education is haphazard. The new contract has increased the amount of education available without addressing the needs of the providers. Proper training, protected time and good secretarial back-up are required for good, meaningful and relevant medical education.

Course Provider	Total Nos.	Total %	"New recruits" since 1990 Nos.	"New recruits" since 1990 %
General Practitioner	101	51.8	39	54.0
Hospital Consultant	47	24.1	14	19.4
Pharmaceutical Industry	4	2.0	1	1.4
Commercial Company	7	3.6	4	5.6
Health Board Administrator	5	2.6	3	4.2
GP with Commercial Company	2	1.0	1	1.4
Other	29	14.9	11	14.0
Total	195	100.0	73	100.0

Table 1 - Breakdown of Course Providers pre and post 1990.

Type of Training	No.	%
Company Training	3	1.5
National Association of Clinical Teachers	1	0.5
Organised Courses previously	17	8.7
University Lecturer	3	1.5
Clinical Tutor	7	3.6
M.S.D. Course	2	1.0
One Day Meeting for Course Providers	6	3.0
Course for Lecturing Skills	13	6.6
Government Training Course	1	0.5
No response	142	72.8
	195	

Table 2 - Types of Training for Course Providers

Type of Speaker	Type of Provider			Total	
	G.P.	Hospital Consultant	Other	No.	%
General Practitioner only	14	-	2	16	8.2
Hospital Consultant only	15	21	1	37	19.0
Combination of above	44	19	22	85	43.6
Other	1	1	6	8	4.1
All of above	10	2	21	33	16.9
No Response				16	8.2
Total	84	43	52	195	100.0

Table 3 - Type of speaker according to background of course provider.

Length of Meetings

	No.	%
Evening meetings	73	37.4
Half day meetings	42	21.5
Full day meetings	34	17.4
Lunch time meetings	20	10.3
2-3 day meetings	19	9.7
One week meeting	4	2.1
Weekend meetings	5	2.6

Table 4 -Preference of course providers in organising meetings of a particular length.

Secretarial Help	No.	%
University Secretary	3	1.5
Postgraduate Adviser's Secretary	13	6.7
Postgraduate Centre Administrator	14	7.2
Self	42	21.5
Health Centre/Practice Staff	56	28.7
N.H.S. Secretary	24	12.3
Personal Secretary	31	15.9
Postgraduate Librarian	1	0.5
Tak Tent	1	0.5
No Response	10	5.1

Table 5 - Secretarial Assistance for Course Providers

Motivation	No.	%
Need for courses	38	19.5
Asked to do it	6	3
Financial Gain	8	4
Enjoyment	19	9.7
Meet other G.P.s	7	3.6
To promote my company	3	1.5
To demystify subject	11	5.6
My job	30	15.4
Education and quest for knowledge	15	7.7
Tradition	3	1.5
Interest	22	11.3
Provide local meeting	7	3.6
Altruism	2	1
Initiate change	1	0.5
Challenge	1	0.5
No Response	22	11.3

Table 6 - Motivation of Course Providers

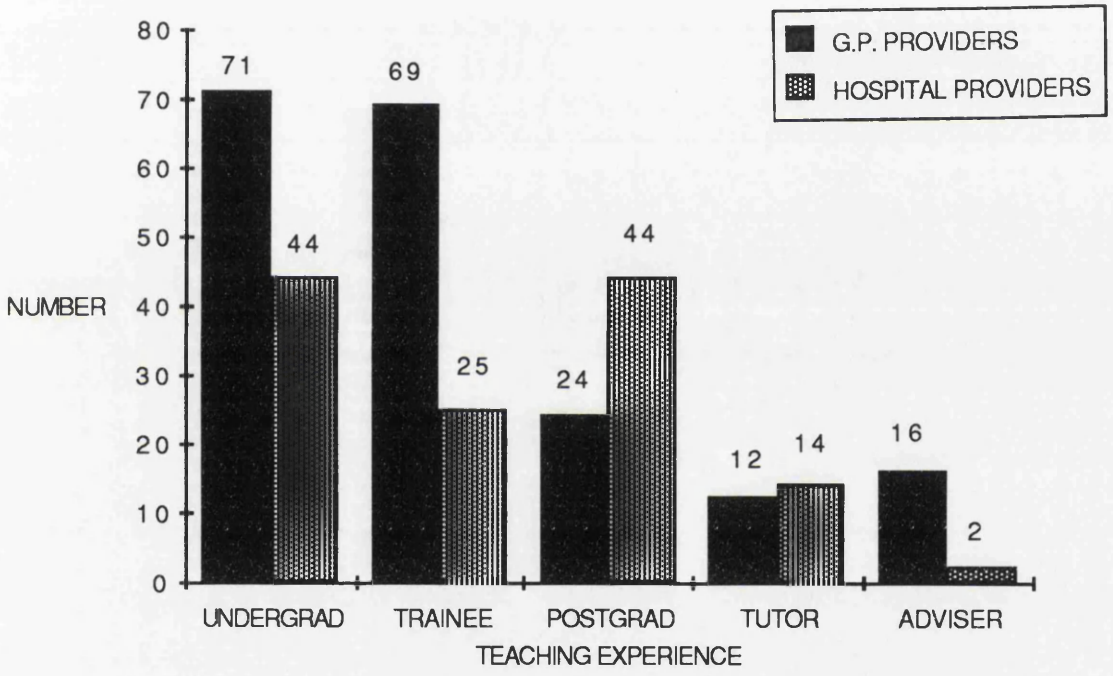


Figure 1 - Pattern of teaching experience of general practitioners and hospital consultants.

CHAPTER 9

CHAPTER 9

PHASE 1 - WHO ARE NOT CLAIMING THEIR POSTGRADUATE EDUCATION ALLOWANCE?

The difficulty of developing an educational programme which is all things to all people has already been mentioned. Continuing medical education is important for personal and professional development and yet a small core of individuals have been identified who did not attend meetings pre contract and did not intend to participate post contract.

It is known that paying doctors to go to meetings has a positive effect on attendance. Wood (1988) reported that attendances at educational meetings rose by 108 per cent between 1969/70 and 1976/77 when the payment of seniority allowances was conditional upon a minimum of 12 hours attendance at Section 63 activities each year. In 1977 this financial incentive was severed and resulted in a decline in attendances as reported by Wood and Byrne (1980).

Studies of non attenders by Wood (1980), Reedy (1979) and Branthwaite et al (1988) have so far failed to show any definite trends although it has been suggested that being female, at the extremes of the age scale, or U.K. graduate and a single-handed practitioner with a relatively small list size may be important. Murray et al (1991), looked at the characteristics of 102 general practitioners in the West of Scotland who failed to complete 10 sessions of accredited education between 1st April 1989 and 30th September 1990 and were therefore ineligible to claim their first postgraduate allowance. These tended to be older male

general practitioners working in small practices. Isolation from a postgraduate centre did not seem important.

For some, therefore, the financial carrot of £2,100 was not enough to coax them to attend meetings. Murray's work was also done very early post contract when many were preoccupied with coping with the other changes which had been imposed on them. It was therefore important to look at the non claimers some time after the dust had settled and find out the characteristics of the absentees, their views of postgraduate education and identify any barriers to attendance at meetings.

A printout was obtained from the database of all the doctors who had attended too few sessions to claim their postgraduate education allowance as of April 1992. A questionnaire covering demographic details, educational habits, views on postgraduate education, local facilities and the implementation of other contract changes was sent to each doctor. The questionnaire was piloted among a number of randomly selected low attenders in the West of Scotland. The final version and the explanatory letter which accompanied it are shown as appendices 6 and 7. A second questionnaire was sent to non responders six weeks later.

All responses were coded by one individual and analysed by computer.

Results

46 low attenders were identified. 35 doctors replied after a second mailing giving a response rate of 76.1%. Of these 9 were new principals and 1 doctor had retired giving a total of 25 for analysis.

Demographic Information

Eighteen (72%) were male, 7 (28%) female. Age range was evenly spread (Table 1), 10 (40%) worked in a rural practice, 8 (32%) in an urban one and 7 (28%) in a mixed setting, 6 (24%) were single handed, 14 (56%) of practices had 3 or less principals, 21 (84%) were not from training practices, 19 (76%) did not have the M.R.C.G.P. and 16 (64%) were not vocationally trained.

Educational Habits

All low attenders had gone to educational meetings pre 1989 with only 2 (8%) indicating that these had not been useful, 8 (32%) feeling that they had sometimes been useful and 15 (60%) finding value from their attendance. Twenty (80%) had continued to go to meetings post 1990. Of the 5 who had not 2 (40%) stated that it was a result of lack of time and locums, 1 (20%) from lack of time only and 2 (40%) that it was too expensive. Seventeen (68%) said that they intended to go to enough meetings in the future to claim their postgraduate allowance.

The reasons for not claiming are shown in Table 2 with lack of time (24%) being the most common.

Reading was the most common way of keeping up to date and this was mentioned by 15 (60%). Only 7 (28%) mentioned reading alone with the remainder combining this with videos, discussion with colleagues and attending meetings. One doctor felt that he gained his education by doing the job of general practice.

In 15 cases (60%) the other partners in the practice claimed their PGEA.

All doctors felt that continuing education was important.

Local Facilities

Four doctors (16%) had no local postgraduate activities. Three of these were in a rural setting, 1 mixed. 2 of the rural doctors were single handed and not intending to claim PGEA in the future. The third rural doctor was in a 2 partner practice and intended to claim in the future as did the doctor from the mixed practice. Seventeen (68%) had access to local postgraduate medical centres and 11 of these also had access to local medical groups or health centre meetings.

Changes

One (4%) principal had not undertaken any of the contract changes. 21 (84%) practices were carrying out elderly screening, 24 (96%) new patient registration, 15 (60%) doing minor surgery, 19 (76%) health promotion clinics, 20 (80%) cervical cytology recall, 20 (80%) childhood immunisation and 14 (56%) paediatric surveillance. 11 (44%) were carrying out all of above.

Four (16%) felt that no changes in the regulations would be necessary to encourage them to participate in continuing medical education (Table 3).

Of the 8 who were not going to claim in the future, 1 needed a new partner, 3 (37.5%) wished to revert back to Section 63 arrangements, 1 (12.5%) wanted better locum reimbursement and 1 (12.5%) wished improved timing and content of the meeting. 2 did not respond.

Future

All but 8 (32%) doctors intended to satisfy the requirements to claim PGEA in the future. Of the 8 who were not 6 were male, 4 single handed and 2 from a partnership of 2. 4 were from rural area, 2 urban, 2 mixed. None were in training practices, 1 was a member of the Royal College of General Practitioners, 1 was vocationally trained, 3 had graduated in the 1950's and 5 in the 1970's. Only 2 had no local postgraduate activities.

Discussion

Both the government and professional bodies see continuing medical education as an important means of influencing the behaviour of doctors and fostering more effective clinical performance. The number of low attenders identified was small and although it did not lend itself to statistical analysis some important barriers to education have emerged. Education is for the most part passive and non threatening and some would feel it is an easy way to earn income. In spite of this the small core of low attenders were unable to overcome the obstacles which prevented them from participating more fully even though they unanimously felt that postgraduate education was important. Since Murray's study in 1991 the number of low attenders had halved indicating that postgraduate education has perhaps been one of the successes of the new contract. Another reason for this reduction may be that general practitioners have given priority to sorting out other areas of the contract and are now finding time for education. This is supported by the fact that 68% of low attenders intended to go to enough meetings to claim their Postgraduate Education Allowance in

the future and also by the fact that all but one had already taken on many of the other contract changes.

As shown before by Murray et al (1991), there was a preponderance of males in the group mainly from rural and small practices but unlike previous literature the ages were fairly evenly distributed presumably because many of the older doctors had retired as a result of the new contract and this in itself could have contributed to the reduced numbers not claiming. It is concerning that of the 8 doctors who did not intend to satisfy the requirements to claim PGEA in the future, 5 had graduated in the 1970's making them in their late 30's or early 40's. It is at this time of life that they should still be eager to learn and develop and it may be an indication of the stress and work engendered by other contract changes that they have chosen to opt out of the educational requirements. The lack of training practices and dearth of M.R.C.G.P. qualifications would suggest that both of these were a stimulus to ongoing education. Indeed this is supported by Murray et al (1992) who showed that high attenders are more likely to be members of the Royal College of General Practitioners and work in a training practice. It may be that doctors working in such an environment and holding the M.R.C.G.P. have different motivation towards education than others.

The ratio of male to female (approximately 3:1) reflects the pattern in the West of Scotland as a whole where there are 470 women to 1322 male principals and this could explain the preponderance of males in the low attenders. However, this sex bias was also a consistent finding in Murray's work. It would seem likely that single handed doctors would have the most difficulty in fulfilling their educational

requirements, however, the 6 doctors who replied represented 3.7% of all single handed G.P.'s in the region whereas the 14 practices who had 2 or 3 principals represented 6.2% of small practices in the West of Scotland. It may be that single handed doctors feel a greater need to keep up to date than those with partners and value the social contact with colleagues at the meetings.

Practice setting would also appear to be an important factor. The 10 low attenders in the rural setting represented 4.8% of all rural practices in the West of Scotland, the urban low attenders represented 1% of such practices in the region and the mixed ones 1.5%. Despite the fact that many of the low attenders (40%) were in a rural setting geographical isolation did not seem an important factor as only 4 did not have educational activities or facilities available locally.

For some G.P.'s the financial incentive was not enough. Lack of time and the expense of locums were the main obstacles to attendance at meetings especially with those who were not intending to claim in the future. The postgraduate allowance stands at £2,100 per year but when balanced against the rising cost of locum rates and the inconvenience of the loss of a partner for 10 sessions it was felt by some to be inadequate compensation.

The quality of the education available was not particularly criticised with only 3 people wishing an improvement in content. Bureaucracy had a negative effect on some doctors with 4 being keen to abolish the categories, administration and the accreditation process.

It is encouraging that the number of low attenders has decreased markedly in the last 2 years. Although small in number they remain an important group. It is vital to acknowledge that rural doctors in small practices have different needs from those working in an urban setting. Reading was the most common way of keeping up to date although there was no indication of quality or quantity. Its attractions are apparent in that it is not costly, it can be done at a time convenient to the doctor and it does not interfere with the practice. Perhaps distance learning should be better promoted and personal education plans developed for these doctors so that time away from the practice can be minimal and the education that they receive can be not only relevant to the practice and their needs but also quality controlled.

The impressive reduction in the number of low attenders would suggest that money is a good motivator for attendance at meetings for the majority of doctors. However, whether this results in improving G.P. education and quality of patient care is doubtful. Although this group is small in number some clear obstacles have emerged, such as pressure of work, cost in terms of time and locums, working in a small, rural non-training practice without a M.R.C.G.P. The low attenders participated in meetings pre contract and for them the financial carrot has not been enough to overcome these barriers. This does not explain the whole story as it would appear that non-attendance is a conscious decision by the individual doctor as in all but 2 practices their partners were claiming their allowance. If other doctors working in the same practice environment can manage to fulfil their PGEA requirements then personal choice is obviously a big factor. Whether change in provision of education will be enough to entice them to participate once more remains to be seen.

SUMMARY

The number of low attenders in the West of Scotland has halved in the last two years indicating that either postgraduate education has been a success or doctors had given priority to establishing the other contract changes and now have time to catch up on their educational needs. Although all feel education is important, lack of time, lack of locums and expense are barriers to overcome. Non claimers appear to be male, from small, rural practices but unlike previous literature age was fairly evenly spread.

Being a member of a training practice, having the M.R.C.G.P. and being vocationally trained did seem to be stimulus to education. Despite the fact that low attenders were in a rural setting, geographical isolation did not seem important as only 4 doctors had no educational activities or facilities locally.

Low attenders are a small but important group. It is vital to acknowledge that single handed and rural doctors in small practices have different needs from those in an urban setting. Perhaps distance learning programmes should be better promoted with practice based learning and personal education plans developed so that time away from the practice can be minimal and the education they receive be relevant to their practice. However, we may have to accept that there will always be a core of non attenders who have made a conscious decision not to participate in continuing medical education.

	Sex	
Year of Graduation	**M**	**F**
1950 - 1955	3	-
1956 - 1960	3	-
1961 - 1965	3	1
1966 - 1970	2	1
1971 - 1975	2	1
1976 - 1980	2	1
1981 - 1985	1	2
1986 - 1990	2	-
No response		1

Table 1 - Year of Graduation

Reason	Number	%
Personal	1	(4)
Due to retire	1	(4)
Lack of locum	1	(4)
Dislike compulsion	1	(4)
Ill health	2	(8)
Don't want to claim	2	(8)
Too expensive	4	(16)
Lack of time	6	(24)
No response	7	(28)

Table 2 - Reason for not claiming PGEA

Requests	No.
Need new partner	2
Abolish categories	2
Abolish administration and accreditation	2
Revert to Section 63	3
Locum reimbursement	3
Improve content and timing	3
No change needed	4
No response	6

Table 3 - Requests for change in regulations or practice circumstances

CHAPTER 10

CHAPTER 10

PHASE 2 AND PHASE 3 - PILOT STUDY

The aim of this part of the study was three fold.

PHASE 2

1. To assess the effect on knowledge of attendance at postgraduate courses.
2. To assess whether participants felt that information gained from the meeting would be a catalyst for change either at a personal or practice level.
3. To follow this up 6 weeks later to see if that change had been initiated and maintained.

Coles (1985) has shown that course evaluation has to be both quantitative and qualitative. The quantitative part involves looking at knowledge using pre and post multiple choice questions. Clinical competence in medicine requires knowledge and Ferland et al (1987), showed that the MCQ was useful in testing this but had little value in assessing the other components of competence such as interpretation of data and problem solving. Multiple choice questions are extensively used in medical examinations and should therefore be familiar to doctors in the West of Scotland. The widespread use of the MCQ has led to an abundance of papers on the subject. One of the essential features of a good MCQ paper or, indeed any form of assessment is its reliability. This was defined by Anderson (1982) as the consistence and precision with which the test measures what it measures or the capacity of the test to provide measures reproducible over time (Hubbard 1971).

As Hubbard (1971) states, "Ideally, one would measure the reliability of an examination by administering the test at least twice to a representative group of the examinees for whom the examination was designed and then calculating the correlation coefficient between the scores after two administrations of the test". Many agree with this sentiment but are quick to point out the practical problems in this procedure and the potential for interference from the `practice effect' of doing the same thing twice. Stanley (1971) suggested that the test-retest method should be avoided as a measure of reliability if problems are likely to arise such as limited sampling of testable items, memory of previous responses and change in motivation between test and retest. There was little published literature on test-retest reliability of MCQ examinations in medicine until Schwarz et al (1986) used this technique in preclinical medical students. They found a high degree of reliability in using this method.

The marking schedules for MCQ's have also been the subject for considerable debate over the years. Initially a `Don't know' category was included giving three options for each answer and a system of negative marking was introduced in an attempt to reduce guessing. It certainly was successful in doing so and impeded some more than others. Harden (1976) highlighted this and suggested that clear instructions be given to answer all questions. Fears were expressed that this would encourage the `lucky guesser' but Fleming (1988) showed that although abolition of negative marking increased the number of questions answered and improved rank order, the results were not consistent with blind guessing. Rather the improved performance was the result of educated hunches based on incomplete knowledge and can be likened to clinical practice where diagnostic uncertainty is all too

common and where many of our decisions are based on gut instinct rather than fact. In this study, MCQ's therefore seemed an appropriate and reliable way to test a doctor's knowledge pre and post course. The questions were of the true false type and there was no negative marking.

It was hoped that the pilot study would help to answer some of the problems below:

1. Feasibility and practicality of carrying out this research.
2. Best way to administer the study - myself or chairperson.
3. Method of course selection.
4. Suitability of explanatory letters to course organisers and speakers.
5. The practice effect of doing two sets of similar/identical questions within a short space of time.
6. Suitability of courses of different sessional values.
7. The need for control questions.
8. The most manageable number of questions.
9. Doctor acceptability.
10. Need for modification to the course assessment sheet and telephone follow up.

Method

Phase 2

Courses covering all 3 categories of Disease Management, Health Promotion and Service Management were randomly selected from the West of Scotland Booklet and included in the pilot study.

Programmes for these meetings were obtained one month before the course was due to take place so that the speakers and organiser and content of the meeting was known.

A standard letter (Appendix 8) was sent to the course organiser outlining the aim of the study.

A standard letter (Appendix 9) was sent to one of the speakers requesting five multiple choice questions (MCQ's) of five stems each related to the content of their talk. A deadline was given for receipt of these questions and they were typed in a particular format. The number of people registered to attend was obtained and the relevant number of photocopies organised. (Appendix 10-13)

The MCQ's were distributed, completed and collected in before the meeting started. Participants were asked to identify themselves using their Health Board cipher number. This enabled the G.P.'s to be identified from the register for the subsequent phases of the study but did not involve them putting their name on the paper giving a degree of anonymity.

The second MCQ and course assessment sheet were distributed during the last five minutes of the meeting. Again the doctors were asked to use their cipher number for identification for ease of matching MCQ 1 and 2. In some of the pilot courses the first and second MCQ's were the same while in others the second set of questions were scrambled with positive statements becoming negative or vice versa. The course assessment included the participants' views on the meeting and their intention to change either individual or practice policies.

The course evaluation part of the questionnaire which was part of MCQ II was validated during this phase. The statements were developed taking into account the recommendations of Oppenheim (1966). The statements covered areas of process, content, style, relevance and achievement. The scale used was a modified Likert scale. (Appendix 14)

Half the meetings were administered by myself and half by the chairperson.

Phase 3

Six weeks later the G.P.'s were identified using their cipher number from the register and were sent a third set of MCQ's identical to the first with a stamped addressed envelope for ease of return (Appendix 15).

The doctors were also contacted by telephone and asked about change at personal and practice level following the course.

Results - Phase 2

Seventeen courses were selected as described. Two courses were cancelled due to poor support, 2 were thought by the organisers to be unsuitable for MCQ's, one speaker submitted unsuitable questions, 4 speakers failed to respond and two organisers failed to administer the study. The following six courses were entered into the pilot study:

1. Understanding Financial Statements (Service Management).
2. Principles of Pain Management (Disease Management).
3. Employment and Law (Service Management).

4. Fundholding and Indicative Prescribing (Service Management).
5. Practice Organisation and Health Promotion (Health Promotion).
6. Diagnosis and Confusion in Cancer Patients (Disease Management).

Courses 1, 2 and 3 were administered by myself and 4, 5 and 6 by the chairperson. All courses except Numbers 2 and 6 had a maximum score of 25, ie. 5 questions of 5 stems each. Courses 2 and 6 had maximum scores of 30 and 15 respectively. Only doctors who arrived late for the meeting did not complete an MCQ I. Likewise those who left early failed to submit an MCQ II. Only matched pairs of MCQ I and II were analysed. All participants on the register were sent an MCQ III. The second set of questions in the first three courses were scrambled and in the last three the questions remained the same throughout. Lists of the final scores are shown in Table 1 for all courses. Individual scores are shown in Tables 2-7.

Course Number 1 (Table 2)

Ten general practitioners attended the course but there were only 9 paired sets of questions. The range of marks were identical between MCQ I and II. Three doctors scored the same marks, 4 increased and 2 decreased (Table 2). When a t test was applied to the pre and post scores there was no statistically significant difference ($p=0.36$; 95% C.I. -1.23, 3.01)

Only 6 doctors returned their MCQ III giving a response rate of 60%. The range of marks ranged from 19-25 and there was no statistically significant difference between the final MCQ and the pre and post course ones despite an increase in mean mark to 22.5. MCQ III scores

showed that one doctor had maintained their level of knowledge, 3 had increased and 2 deteriorated with one falling below the level of the pre-test score.

Course Number 2 (Table 3)

Twenty two general practitioners attended the course with only 17 paired sets of questions. The range of marks varied from 12-28 pre-test to 19-29 post-test. Four doctors remained unchanged, 10 improved and 3 got worse (Table 3). When a t test was applied to the pre and post scores there was no statistically significant difference ($p=0.28$; 95% C.I. -0.93, 2.58). Only 11 doctors returned the MCQ III giving a 50% response rate. The range of marks was similar to MCQ III namely 20-28 and there was no statistically significant difference between these scores and the previous ones. When compared with MCQ II two of the doctors remained the same, 3 had improved and 4 deteriorated, all below the starting level. Two doctors who returned the MCQ III had not completed a post-test set of questions and their marks were below the original scores. The mean MCQ III was similar to the pre-course mean.

Course Number 3 (Table 4)

Nineteen doctors took part with 17 paired results. The range of marks can be seen in Table 1. Three doctors remained the same, 11 improved and 3 got worse. The mean rose from 17.5 to 20.7 post-course. The t test showed a statistically significant difference between the pre and post course scores ($p=0.005$; 95% C.I. 1.14, 5.33). Only 5 doctors returned their MCQ III giving a response rate of 37% (Table 4). There was no statistically significant difference between the MCQ III scores when compared to I and II ($p=0.12$ and 0.34 respectively). One doctor

maintained his score, 3 improved and 3 deteriorated, one of whom fell below the pre-test level.

Course Number 4 (Table 5)

Fifteen doctors attended and there were 12 pairs of results to analyse. The range of marks was similar between all 3 sets of questions (Table 1). One doctor remained the same, 8 improved and 2 deteriorated (Table 5). The t test showed no statistically significant difference between MCQ I and II (p=0.02; 95% C.I. 0.30, 2.7). Six doctors returned MCQ III giving a response rate of 46%. Again there was no statistically significant difference between these scores and the pre and post marks. Five doctors' knowledge had deteriorated with one falling below pre-course level. The remaining G.P. improved.

Course Number 5 (Table 6)

Fifteen doctors participated with 12 complete pairs being obtained for analysis. Ranges are shown in Table 1. Using the t test there was a statistically significant difference shown in MCQ I and MCQ II (p=0.006) with 5 doctors remaining the same and 7 improving following the course. Eleven doctors responded to MCQ III giving a 73% response. Two had remained the same, 3 improved and 6 worsened with 2 falling below their MCQ I mark (Table 6). There was no statistically significant difference between the marks 6 weeks post-course and immediately pre and post-course (p=0.24 and 0.3 respectively).

Course Number 6 (Table 7)

Seven G.P.'s attended this and each completed both pre and post questions. The mean MCQ increased from 16 pre-course to 18.3 post-

course. This was statistically significant (p=0.09). One doctor remained the same, 5 improved and 1 got worse (Table 7). Four responded to MCQ III, ie. response rate 57%. There was no statistically significant difference shown between this and pre and post-course figures. Two G.P.'s improved and 2 worsened with 1 failing below MCQ I.

Results - Phase 3

The response rate for return of the third set of questions are mentioned above. The mean MCQ III mark was higher than the mean MCQ II in 2 courses although not statistically significant. In 2 courses it returned back to pre-test level and in the remaining 2 it fell below the post-test mark but above the pre-test level.

Effect On Change

All doctors on the register for each course were contacted by telephone 6 weeks later and asked whether they had initiated any change as a result of attendance at the meeting at a personal and practice level. This was compared to their response on the post-course assessment sheet.

Course Number 1

All the doctors (10) completed a post-course assessment sheet. Three felt that they would make some change at personal level (30%) and 5 (50%) felt they could make a change at practice level.

Six were contacted by telephone - 3 were on holiday and 1 on maternity leave. Two of the G.P.'s who had felt that they would change personally post-course had not done so. At a practice level 3 were trying to initiate change - 1 by changing accountants and 2 were attempting to have more financially orientated practice meetings. All

negative responses both personal and at practice level remained negative.

Course Number 2

Nineteen doctors completed an assessment sheet. One (5.3%) indicated that they may initiate personal change and 3 (15.8%) a practice change.

Twelve were contacted by telephone. Only 15 had signed the register, 2 were on holiday and 1 had left the practice.

The doctor who had intended to change personally had not done so. Two of the 3 G.P.'s who had wanted to change at practice level were not able to be contacted. The remaining doctor had changed nothing.

Course Number 3

Eighteen doctors completed the assessment with 2 (11.1%) wishing to make a personal change and 5 (27.8%) wishing for a practice change.

Sixteen were contacted 6 weeks later (2 were on holiday). No doctors had changed their personal practice. Of the 5 who had intended altering their practice only 1 had done so by having more staff meetings. One doctor who had initially replied in the negative had used information to sack a member of staff. All others replied in the negative.

Course Number 4

Thirteen doctors completed an assessment form. Five (38.5%) felt they would change their personal practice. Six weeks later 2 had done so by altering prescribing and increasing referrals and another by improving

data collection. Six (46.2%) were intending to make a practice change. Six weeks later they were using information from the course for fund holding preparation.

Course Number 5

Fourteen assessments were completed post course. Five (35.7%) intended to change at a personal level and 7 (50%) at a practice level. Twelve doctors were contacted by 'phone 6 weeks later. Of these who intended to alter their personal practice only one had increased the amount of health promotion being done. One who had no intention of changing had been carrying out audit. Only 3 who had intended to change at practice level did so with 2 altering their health promotion clinics and 1 starting to use protocols.

Course Number 6

Seven post course assessments were completed. Five doctors were going to change personally and had not felt inspired to make any practice changes. Four were contacted by telephone, 3 were on holiday. These 3 doctors were included in the 5 who were going to make personal changes, the remaining 2 did not make any change. All other negative replies remained negative.

Conclusions

The pilot study confirmed that the project was feasible and tested the acceptability of it to general practitioners. As a result various changes were made in the following areas.

1. Administration

It was decided that all selected courses should be administered by myself. Although this limited the number of courses which could be included, it ensured uniformity and overcame the problem of chairpersons failing to administer the questions at the last minute or doing so incorrectly.

2. Course Selection

Meetings which had a sessional value of less than 1/2 were excluded as it was discovered that the time taken to administer two sets of questions eroded too much of the course time.

Meetings which had a mixed audience of G.P.'s and hospital consultants were also excluded.

Because the study was dependent on the co-operation of course participants any series of meetings were only included once.

It was intended to use random number tables to select courses from the West of Scotland booklet. However, the pilot study highlighted some practical problems with this. The booklet did not always give enough information on dates and category to allow random tables to be used. The decision for the study to be administered by myself dictated that courses to be included had to be held on a date and time when I was personally available. When more than one course was being held at these times then random tables were used.

Another factor which came into consideration was whether or not programmes were available in adequate time to allow speakers to be identified and contacted to provide questions. If not these courses were de-selected. It was decided that meetings outwith the scheme should be included to give a more balanced view. Programmes for these courses were submitted to the Regional Adviser for accreditation at least one month before. Every fifth programme was passed to myself for inclusion in the study.

3. Letters

Letters to the speakers were modified to be more specific about the questions required. Correspondence for meetings in the scheme was on Undergraduate department notepaper so that this would not be seen as a monitoring exercise from central office. Correspondence for non-scheme courses on the other hand was on Postgraduate department paper to give more authority and encourage co-operation from the organisers and speakers at these meetings. (Appendices 16 and 17).

4. Practice Effect

In 4 out of the 6 courses there was a statistically significant improvement overall between the first and second set of MCQ's. Although some doctors remained the same before and after and a small number scored less following the course. It could be argued that any improvement was a result of doing the same questions with a relatively short time between. It was therefore decided that the second set of questions should be scrambled with positive and negative statements being interchanged.

5. Control Group

It was felt that it was important to include a control group in the study. However, with respect to the subject of postgraduate education it is difficult to define such a group. Even if doctors were used who were not attending a selected meeting their baseline knowledge would have been influenced by their previous medical experience, their own medical interests and their attendance at other postgraduate meetings which may have been held on the same or similar subjects. The practical problems included in recruiting and administering the study to a "control" group of doctors did not make this a feasible option. It was therefore decided that an acceptable compromise would be to include 2 multiple choice questions prepared for a different meeting in the same category. Not only would this be feasible but it also provided a `built in' control group to each course and would also help to make a better assessment of any practice effect.

6. Number of Questions

Having used a variety of 3, 5 and 6 questions in the study it was felt that 5 questions plus 2 control questions would be appropriate for each course. It was important that only a short time was spent answering questions so that there was little disruption to the meeting.

7. Doctor Acceptability

There was little resistance to participation in the study from the doctors attending the courses. However, there was anxiety expressed about anonymity and although reassurance was given that no attempt would be made to link names to scores there was uneasiness about the use of the cipher number as identification. Fears were expressed by some of

the course organisers and the local medical committee (Appendices 18-20). As the study depended on doctor co-operation it was decided that a pseudonym of the G.P.'s choice should be used for identification enabling MCQ I and II to be matched. This alteration meant Phase 3 had to be modified as the result of MCQ III could not be accurately matched to I and II. Also the potential personal and practice changes which the doctors intended to implement post course could no longer be matched up with what they actually did six weeks later.

8. Course Assessment Sheet

This was expanded to include reasons for motivation and attendance at the meeting (Appendix 21). The motivation of the learner is known to be an important factor in the effectiveness of education and it was decided to explore this area in more detail. Doctors were asked to be more specific on their ideas for change and the position of the questions was shifted to the beginning of the assessment sheet to encourage more detailed replies.

The method of validation of the course assessment statements used Upper and Lower Thirds which is capable of determining whether or not each statement can discriminate between respondents who have overall favourable and overall unfavourable attitudes towards the subject under consideration.

Each statement either represented a favourable attitude or rating, or an unfavourable one. If favourable, the statement was scored 6 for `Strongly Agree', 5 for `Agree' etc. If unfavourable it was scored in reverse order.

A total score for each respondent was calculated and these were ranked in order from highest to lowest. The middle third were discarded. The percentage difference of those scoring 3, 4 or 5 in the upper and lower thirds were calculated. (20 respondents in each.)

The decision to accept or reject a statement was based on the criterion of 30 per cent difference. If the difference between those scoring 4 or 5 in the upper third and those scoring 4 to 5 in the lower third was 30 per cent or more, then the statement was acceptable. If less than 30 per cent then the statement was rejected.

The smallest difference between the upper and lower thirds for any statement was 35 per cent and therefore all were retained.

9. Phase 3

MCQ III was abandoned. Firstly, because it could not be matched with previous scores. Secondly, there was a poor response rate and thirdly, no statistically significant difference was shown between I, II and III. Because of this the follow up telephone call became more detailed and included information on mechanism of change within a practice, obstruction to change and other factors which the doctor could feel had been a catalyst to change (Appendix 22). Some G.P.'s were difficult to contact by telephone. If they had not been contacted after 3 attempts they were classified as not available. It was decided that no doctor would be contacted who had attended at more than one of the study courses.

The pilot study showed that the project was feasible and, on the whole, acceptable to the profession. Several problem areas were highlighted

and difficulties were ironed out at an early stage. The main study included the amendments outlined in this chapter.

COURSE NUMBER

	1	2	3	4	5	6
Category	SM	DM	SM	SM	HP	DM
No. of Participants	10	22	19	15	15	7
Maximum Score	25	30	25	25	15	25
Range MCQ I						
Min-Max	5-23	12-28	1-22	15-22	9-14	12-18
Mean MCQ I	17.8	24.6	17.5	18.1	11.4	16
Mean MCQ II	18.6	25.5	20.7	19.6	12.9	18.3
Mean MCQ III	22.5	24.7	19.4	18.1	12.2	19
P.Value						
*MCQ II - I	0.36	0.28	0.0047	0.019	0.0063	0.089
P.Value						
**MCQ III - I	0.42	0.86	0.12	0.23	0.24	0.15
P.Value						
O MCQ III - II	0.45	0.13	0.34	0.34	0.30	0.79
Range MCQ II						
Min-Max	5-23	19-29	13-24	14-23	11-15	16-22
Range MCQ III						
Min-Max	19-25	20-28	7-25	17-22	11-13	16-22

	1	2	3	4	5	6
* 95% C.I.	(-1.23,3.0)	(-0.93,2.58)	(1.14,5.3)	(0.30,2.7)	(0.46,2.2)	(-0.47,5.05)
** 95% C.I.	(-3.7,7.3)	(-3.5,4.09)	(-0.06,6.56)	(-0.96,2.96)	(-0.62,2.22)	(-2.03,8.03)
O 95% C.I.	(-5.1,9.5)	(-4.09,0.6)	(-3.84,1.55)	(-4.3,1.9)	(-1.83,0.63)	(-2.97,2.47)

Table 1 - Scores of MCQ I, II AND III for pilot courses

No.	MCQ I	MCQ II	MCQ III
1	-	21	-
2	22	22	19
3	16	13	25
4	16	22	-
5	22	25	24
6	5	5	-
7	23	23	23
8	20	18	21
9	16	19	-
10	20	21	23

Maximum score available - 25.

Table 2 - Individual scores for course No.1.
Understanding financial statements

No.	MCQ I	MCQ II	MCQ III
1	26	27	-
2	-	31	23
3	22	22	-
4	20	27	28
5	21	27	-
6	23	26	26
7	28	29	26
8	-	25	25
9	28	28	-
10	26	25	-
11	26	28	22
12	25	23	-
13	22	23	-
14	24	27	-
15	27	28	-
16	26	26	24
17	26	26	27
18	27	19	-
19	22	23	20
20	27	-	26
21	26	-	25
22	12	-	-

Maximum score - 25.

Table 3 - Individual scores for Course No.2
Principles of Pain Management

No.	MCQ I	MCQ II	MCQ III
1	18	18	-
2	19	19	-
3	15	21	-
4	21	24	24
5	14	24	-
6	17	22	24
7	21	24	25
8	14	23	-
9	20	19	20
10	18	18	-
11	19	18	-
12	19	18	15
13	19	22	-
14	1	13	7
15	14	-	-
16	22	23	-
17	19	24	21
18	22	23	-
19	-	20	-

Maximum score - 25.

Table 4 - Individual scores for Course No.3
Employment Law

No.	MCQ I	MCQ II	MCQ III
1	16	-	-
2	11	-	-
3	-	21	17
4	19	18	-
5	15	14	-
6	15	15	-
7	16	19	-
8	22	23	-
9	18	21	-
10	20	22	19
11	19	18	21
12	16	20	17
13	19	21	19
14	19	23	22
15	19	21	-

Maximum score - 25.

Table 5 - Individual scores for course No.4
Fundholding and Indicative Prescribing

No.	MCQ I	MCQ II	MCQ III
1	11	11	12
2	10	13	13
3	9	11	13
4	11	13	11
5	11	11	12
6	14	14	11
7	13	15	12
8	11	13	12
9	14	14	-
10	11	14	13
11	13	13	13
12	9	13	-
13	12	-	-
14	-	12	-
15	-	12	11

Maximum score - 15.

Table 6 - Individual scores for course No.5
Practice Organisation and Health Promotion

No.	MCQ I	MCQ II	MCQ III
1	18	18	22
2	18	22	16
3	16	18	19
4	18	17	-
5	14	16	-
6	16	17	-
7	12	20	19

Maximum score - 25.

Table 7 - Individual scores for course No.6
Diagnosis and Management of Confusion
in Cancer Patients

CHAPTER 11

CHAPTER 11

PHASE 2 - EFFECT OF COURSE ATTENDANCE ON GENERAL PRACTITIONERS' KNOWLEDGE

The pilot study had been carried out in May and June 1992. Over the ensuing summer months there was a dearth of courses. So the evaluation proper ran from September 1992 - March 1993 inclusive. This period was a fairly representative part of the educational year when most general practitioners would be trying to gain their sessions. The number of courses available in the West of Scotland from all sources during the study period are detailed in Table 1. The study used courses from the scheme or pharmaceutically sponsored and the numbers below refer to these only.

A total of 44 courses were randomly selected during this time using the process already described in the previous chapter but 17 were excluded as 10 were cancelled, 4 speakers failed to produce questions and 3 were not thought suitable for inclusion by the organiser.

Twenty seven courses were included in the study. A number of rate limiting factors were encountered over and above the availability of M.K. to attend the courses. These were:-

1) The study period covered holiday times, eg. Christmas, New Year and October week when there were few courses.

2) Adequate notice had to be given to organisers and speakers and unless a programme had been obtained one month before, this could not be done.

3) Courses were cancelled at the last minute due to low attendance giving inadequate time to substitute another course.

4) Speakers occasionally failed to submit questions on time or failed to produce them at all.

A great deal of time was devoted to the preparatory phase before a course was ready to be included in the study. The postgraduate office was contacted to submit programmes. If these were not available the organisers had to be prompted. Once these were available and the speaker and organiser were identified, letters were sent outlining the project and requesting questions. If no questions were obtained by the given deadline, the speaker was prompted by numerous telephone calls. The questions were then converted into the study format and control questions selected and included. The second set of questions were then scrambled and retyped. (Appendices 23-28). The postgraduate office was finally contacted to determine the number attending and both sets of questions were then photocopied. It therefore only took one hiccough in this chain of events to disrupt the timescale and cause courses to be omitted from the study.

The courses were selected from all the health board areas with 4 from Ayrshire and Arran, 16 from Greater Glasgow, 2 from Lanarkshire, 2 from Dumfries and Galloway, 2 from Forth Valley and 1 from Argyll and Clyde. The sessional values of the meetings were either 0.5, 1 of >1 and the format was a combination of lecture only, lecture and discussion, lecture and group work (Table 2).

The breakdown of courses is shown below.

	Category		
	DM	HP	SM
Scheme	9	6	7
Non Scheme	3	2	-
Total	12	8	7

This selection of courses from the scheme and drug companies was representative of the number of courses in each category, with a sessional value of greater than 0.5, which were available in the West of Scotland during the study period. Disease Management were the most prevalent, 320 or 49.5% of all courses from the scheme or drug company. As shown below Service Management courses were the most difficult to recruit and constituted most of the "not suitable" or "no questions received" categories.

	Category		
	DM	HP	SM
Study Courses	12	8	7
% of total	44.4	29.6	25.9
Total (Scheme & Drug Co.) available in West of Scotland	320	130	197
% of total	49.5	20.1	30.4

The total number of drug company sponsored meetings of at least 0.5 session value held in the West of Scotland during the study period is shown below.

Sessional Value	DM	HP	SM
>1.00	1	0	0
=1.00	32	10	12
=0.50	34	3	2
Total	67	13	14

This represents 9% of all the meetings held in the West of Scotland whether scheme or not. The number of drug company meetings included in the study was 5 which is 18.5% of the meetings analysed.

The total number of doctors attending the study courses was 551. The average number attending each scheme meeting was 17.5 (range 7-36) and drug sponsored ones 33.4 (range 15-54). Only paired sets of MCQ's were included and there were 505 of these. Of those who failed to submit 2 MCQ's 32 (8.3%) were from scheme and 19 (11.8%) non scheme. The reasons for failing to obtain 2 MCQ's were threefold:-

a) The doctors arrived late and did not complete MCQI.
b) The doctors left early and did not complete MCQII.
c) The doctors did not wish to participate in the study.

Results

The key questions of interest for the summary data on all courses were:

a) Was there a change in overall knowledge levels?
b) Was there a change in overall knowledge of control questions?
c) Do changes in knowledge relate to:
    (i) Reasons for attendance?
    (ii) Category of course?

(iii) Format of course?

(iv) Whether a scheme meeting or sponsored one?

a) Effect on overall knowledge

505 paired scores were available for analysis. 258 were in DM category, 144 HP and 103 SM. Overall 23 (8.9%) scored the same pre and post test in DM courses, 15 (10.4%) in HP and 15 (14.6%) in SM. 27 (10.5%) decreased their score in DM, 31 (21.5%) in HP and 22 (21.4%) in SM. 208 (80.6%) improved their score in DM meetings compared to 98 (68.1%) in HP and 66 (64.1%) in SM.

For each individual course a paired t test was used to assess the significance of changes in knowledge. The Wilcoxon signed test was used for courses with small numbers. The conclusions were unchanged no matter which test was used.

21 courses showed a statistically significant improvement in knowledge post course, $p<0.05$ (Table 3). This included 11 (92%) of DM courses, 6 (75%) of HP and 4 (57%) of SM. All 5 drug company meetings showed a statistically significant increase in knowledge post test. There was no statistically significant difference in the control question scores pre and post test apart from course 25 which just reached statistical significance of $p=0.04$, 95% confidence interval 0.03, 1.25 (Table 4). This may be explained by two doctors who failed to answer both control questions in MCQI but did so in MCQII thus boosting their post test control score by 4 and 3 respectively. This was an isolated occurrence and did not recur in any of the other courses.

The above figures would suggest there had been an overall improvement in knowledge by attendance at courses. To obtain a subjective impression of this a dot plot of the differences of the mean scores of the MCQ's was done (Figure 1). The majority of the points lie above O suggesting that there has been an overall increase in knowledge. This is confirmed by the paired t test which gives a p value <0.001 and confidence interval (1.9, 3.0). This does not take account of the different sizes of courses, the course was used as the unit of analysis and mean changes in knowledge were compared by weighted analysis of variance using the square root of the number of participants in each course as the weights. This gave a p value of <0.001 and a confidence interval of 1.3, 3.6 supporting the finding of a significant increase in overall knowledge from before to after.

It would appear that the difference in score is not dependent on the initial mean scores as when these are plotted for the 27 courses a random scatter is obtained (Figure 2).

The overall mean MCQI and II for each individual was also plotted against the differences and a diamond shaped graph was obtained suggesting that those who had low or high overall scores gained little knowledge whereas those with a medium mean score, ie. (13-18) benefited the most from attendance at a course (Figure 3).

b) Effect on overall knowledge of Controls

A paired t test was done on the control marks for individual courses. This gave a p value of 0.5 and confidence interval (-0.15, 0.3). A dot plot of the differences in the mean scores showed the points to be centred

around O (Figure 1) confirming that there had been no overall change in control knowledge.

To compensate for the varying numbers attending a weighted analysis of variance was done and a p value of 0.44 for occasion was obtained and confidence interval for the differences as (-0.35, 0.51). There was therefore no change in overall control knowledge which was reassuring and indicated that any increase in knowledge was from information given at the courses and not related to the repetitive effect of doing the same questions in a short space of time.

c) Factors which influence change in knowledge

There were a number of variables present which could have influenced the changes in doctors knowledge such as the category of the course, the format, whether sponsored or not, the doctors' reason for attendance and the Health Board area in which the meeting was held.

The last variable, when looked at more closely was discounted as the course registers revealed a cross boundary flow of G.P.'s from one area attending meetings in another.

Reasons for attendance

After each meeting the doctors were asked to indicate their reasons for attendance. Nine choices were given:

a) To gain sessions for postgraduate education allowance.
b) Genuine interest in the topic.
c) I know little about the topic and want to learn more.
d) To meet colleagues.

e) To use information gained to change my practice.

f) Recognised a gap in my knowledge and felt the course filled an educational need.

g) I feel knowledgeable and want an update.

h) Don't know.

i) Other.

More than one response could be chosen.

The overall responses are shown in Table 5. Most people ticked reason a) and this was also true for the individual courses.

The relationship between reasons for attendance and gain in knowledge were looked at on three levels. This was done to uncover any subtleties which might be hidden when courses were analysed together.

Level 1 - A two sample t test was carried out to compare the mean change in knowledge of those who gave the reason with the mean of those who did not. There was no evidence that any of the reasons for attendance related to increase in knowledge (Table 6).

Level 2 - The above process was repeated for each course individually. In only 3 courses did any reason for attendance reach statistical significance. (Table 7). These were:-

Caecum to Rectum (DM)	- Reason g) p=0.01
Gastroesophageal Reflux (DM)	- Reason e) p=0.01
	- Reason f) p=0.002
Audit (SM)	- Reason b) p=0.002
	- Reason f) p=0.002

In the course on audit it was doctors who had not cited reason b) and f) who gained statistically more knowledge than those who had.

The courses had 16, 20 and 19 doctors attending respectively.

Level 3 - The courses were grouped into three bands - those with the highest mean difference in scores, those with medium gains and those with the least. The number of doctors giving the reasons for attendance in each of the groups is shown (Table 8). A Chi squared test was carried out and reasons a, b and e reached statistical significance ($p<0.001$, $p<0.01$ and $p<0.01$ respectively). Those in the higher scoring group were more likely to cite reason e) than the lower scorers ($p<0.02$) and likewise the medium scores also gave reason e) more often than the low group ($p<0.01$). The medium scorers tended to go for PGEA (reason a) than either the high or low group ($p<0.01$; $p<0.001$) but showed less interest (reason b) than either of these groups ($p<0.01$; $p<0.02$).

Category

A weighted analysis of variance was carried out for each type of course. This gave an F value of 2.26, $p=0.13$. This test, however, has relatively low power since the number of courses was small.

Category	No	Mean	St.Dev	p-value
Disease Management	12	3.0	0.36)	
Service Management	7	1.8	0.51)	0.13
Health Promotion	8	2.2	0.46)	

This would suggest that the category does influence clinical knowledge although did not reach statistical significance. The standard of knowledge initially does seem to be higher in HP and SM than in DM as the initial overall mean MCQI for DM courses was 15.6 compared to 17.8 for HP and 17.1 for SM. The second MCQ scores rose to 18.7 for DM, 19.9 for HP and 18.8 for SM. This would suggest that DM courses confer greater knowledge to the participants than the other categories but it did not reach statistical significance.

Scheme - v - Drug Company Sponsored

There was little difference in the initial level of knowledge in the scheme and sponsored meetings with the mean MCQI being 16.8 and 16.1 respectively.

The overall mean increase was 2.8 for the 22 scheme courses and 3.1 for the 5 non-scheme courses. Weighted analysis of variance gave F = 1.74, p = 0.20. Again this test has low power.

	No	**Mean**	**St.Dev**	**p-value**
Scheme course	22	2.3	0.29)	
Drug company sponsored	5	3.1	0.53)	0.2

Format

The overall mean increases were 2.9 for the 3 lecture courses, 2.0 for the 18 lecture and discussion courses and 3.7 for the 6 small group courses. Weighted analysis of variance gave F = 5.26, p = 0.01. Pairwise comparisons showed that the mean change for the small group courses

was significantly greater than the lecture courses (95% confidence interval 0.5, 2.9).

Format	No	Mean	St.Dev	p-value
Lecture	3	2.9	0.81)	
Lecture + Discussion	18	1.2	0.27)	0.013
Small Groups	6	3.7	0.46)	

These results imply that courses taught in small groups produce significantly higher scores than courses taught as a lecture and discussion.

Individual Courses

So far this chapter has mainly dealt with overall gain in knowledge but it is important to look at individual courses too.

When the courses were ranked into highest mean difference in scores, middle and lowest, 7 of the top 9 were DM (Table 9).

Three courses were chosen to be looked at in more detail, one in DM, one in HP and one in SM.

Course 12 - Contraception (HP)

Twenty two paired MCQ's were obtained. The range of scores for MCQI was 11-22 (mean 18.6) and for MCQII 16-25 (mean 20.3). One individual scored the same pre and post test, the rest increased with the maximum gain being 8. This gave an overall statistically significant gain in knowledge of $p<0.001$ (c.i. 2.9-4.9).

The mean scores for the control questions were 7.8 initially and then 8 (p=0.1; or -0.04-0.3).

The reasons for attendance was compared to the individual's change in score and a two sample t test applied. There was no association found between any of the reasons and knowledge gain.

Course No.4 - Paediatric Neurology (DM)

Twenty nine people attended this course. The range of MCQI was 9-18 and MCQII 13-20. Two doctors scored the same pre and post test, 2 deteriorated and the rest improved with the biggest increase being 9. Again there was a significant knowledge gain, $p<0.001$ (c.i. 3.3-5.2).

The mean control score pre course was 7.4 and 7.5 afterwards (p=0.85).

Once again there was no association between the gain in knowledge and reason for attendance.

Course 20 - Audit (SM)

Nineteen paired MCQ's were analysed ranging from 12-20 for MCQI and 16-22 for MCQII. Three doctors got worse after the course, one remained the same and the rest improved. The change in scores ranged from -1 to 9. The overall change in knowledge was statistically significant, $p<0.001$ (c.i. 1.3-4.3).

There was little change in controls from 8.1 pre course to 7.1 post course (p=0.5).

Reason b), interest in the topic showed an association with change in knowledge, p=0.002 and also reason f), I recognise a knowledge gap and want to fill an educational need, p=0.002 with doctors scoring significantly higher if they had not given these reasons for attendance. Audit is a topic which has been imposed on doctors and many feel antagonistic towards it. However, it is reassuring that doctors can still learn despite these negative feelings and it underlines the complexity of the learning process.

It is interesting that the courses which showed the highest mean difference in scores were predominantly DM and all the topics in this top third were very relevant to day to day practice. Health promotion and Service Management featured highly in the lowest third of courses. Although many of these topics are relevant to practice they have also been the subject of contractual changes and it could imply that imposition does not enhance learning.

Discussion

The family doctor is, by necessity, a generalist and a 'jack of all trades'. Keeping up to date in the fast moving world of medicine is a daunting task and with only a limited time put aside for education, course selection becomes important.

The courses included in the study covered a wide range of topics and were representative of what was available to G.P.'s in the region. It was reassuring to see that overall the knowledge of the doctors was good as only 5 of the 27 courses had initial mean MCQ scores of <15 out of a possible 25 with the lowest mean score being 11.8. All of these meetings were in the DM category. HP and SM tend to be much narrower areas

but DM is a huge topic so there are bound to be some gaps in doctors' knowledge in many aspects of this. The small number of low scoring courses would also suggest that doctors go to things they are interested and comfortable with, rather than responding to an identified lack of knowledge. This is supported by the numbers in Table 5 responding to reason b) compared to reason f). Although overall there was a statistically significant increase in knowledge pre and post course this was not the case for all the individual courses. Six of them had no statistically significant change. One was in DM, 3 in SM and 2 in HP. Since the total number of courses in each category was 12, 7 and 8 respectively this would suggest that more knowledge can be gained by attending DM than HP or SM meetings. In fact DM courses did produce higher changes in scores than HP which in turn produced greater changes than SM courses but it failed to reach statistical significance. Disease Management topics tend to be more factual and information may be easier to retain whereas the other categories are more conceptual. DM also tends to be more relevant to day to day practice which could also affect uptake of knowledge. It may be that with a bigger number of courses statistical significance could be reached. It could be argued that the failure of six courses to show a statistically significant increase in knowledge is attributable to the low number of attenders. Some of these courses, however, had more people going to them than those which reached statistical significance and when all the courses were graded according to mean difference in MCQI-II 5 of the 6 non significant courses were in the bottom 9.

The knowledge gained does appear to be the result of attendance at a course as there was no alteration in the control qeustions scores pre and

post test and knowledge was not influenced by doing the same questions in a short space of time.

Although there was no obvious correlation between the initial mean scores of the courses and changes in knowledge, the diamond shaped graph of mean individual scores of figure 5 would suggest that those with a middle of the road score improve the most while those with very high or very low scores gain the least. This would imply that identifying a knowledge gap does not always guarantee a great increase in knowledge. Those with a medium score may have some experience in a topic as well as having room for improvement in knowledge, those with high scores have little to learn and should be directed away from these areas. Those with a very low score have obvious room for improvement but gain little possibly because their poor initial marks may reflect lack of interest in the topic or the meeting did not satisfy the G.P.'s need or the doctor had the wrong motivation for learning. Perhaps pre course assessment could be used to direct doctors to the most beneficial type of education.

Although the majority of doctors attended meetings to gain sessions for PGEA this was not the sole reason. There was no association found between the degree of change in knowledge and the reason for attendance when analysed at an individual level but when looked at for each course separately interest in the topic, an intention to use information gained to change practice, fulfilment of an educational need and feeling knowledgeable but wanting an update may have had some influence. It has been known for some years that lectures are an inefficient way to transfer knowledge. This study has highlighted the value of small group teaching and has linked this format with increase

in knowledge. This type of teaching is seen as threatening by G.P.'s and the challenge for the future must be to make it more attractive to them and to encourage providers to adopt this method more often. It is interesting to note that none of the drug company sponsored meetings used the small group type of teaching. Despite this there was an increase in knowledge after these meetings but this may be related to the fact that all but one were on DM and this has been shown previously to be the most influential category. Although using the least effective educational methods it is interesting to note the significant increase in knowledge. The choice of speaker may be important and their methods of presentation often aided by the provider's expertise and training in course organisation and the state of the art audiovisual materials which are made available for transmitting knowledge. Whether this leads to altered prescribing would be an interesting study. The overall mean score for the control questions for drug company meetings was 5.3 compared to 7 for non commercial meetings. There only were 2 control questions per meeting and therefore any conclusions should be treated with caution but since the control questions had nothing to do with the content of the meeting it does raise the question of differences in 'core' knowledge of people attending sponsored meetings versus scheme ones. The mean MCQI for those attending drug company meetings was 16.1 showing that they had a reasonable knowledge of these topics in which they were presumably interested.

There are other variables which can affect a doctor's ability to learn such as their receptiveness at the meeting, their learning style, their previous education in the topic and the quality of the speaker and the course. Many of these are difficult to define and measure but the last two were

(Miller et al, 1978)

determined by completion of a course assessment sheet. This covered areas of content, relevance, interest, speaker and application to practice and for each course there was satisfaction in the overall quality. Criticism could be levelled at the reliability of the multiple choice questions used but true reliability takes many years and was not practical in this study. The object was to assess change in knowledge by attendance at courses. The questions were made up by the speaker and dealt with key information which the speaker wished to pass on. To this end the questions were satisfactory. It could also be argued that seeing the questions would alert people to listen more carefully for certain points. The fact that 53 (10.5%) scored the same pre and post test and 80 (15.9%) got worse would seem to refute that theory. It is curious that some doctors did score badly post course. This might be explained by Festingers Disonance Theory which predicts that subjects resist changing a response to which they are highly committed and easily change a response to which they are not committed, ie. a doctor who assumes he has the 'right' answers will 'tune-out' to the teaching process and therefore learn little. It is reassuring that doctors are gaining knowledge by attending courses. During the process of an educational event we not only learn from the speaker but also from informal chat with our colleagues and we may therefore be influenced in very subtle ways about topics which were not covered in the multiple choice questions and which are very difficult to measure.

Learning is a very complex issue but it has been shown by this study that factors such as the format of the course and the category can influence the degree of knowledge gained. It has shown that the initial MCQ can guage an individual's level of knowledge and as Miller (1978) suggested it can draw attention to weaker areas which would benefit

from learning. However, identifying such an educational need must be linked to motivation, the interest of the individual to the topic and its relevance to their daily work. Identifying need in isolation does not greatly enhance knowledge. How long this knowledge is retained and whether the acquisition of such knowledge leads to change in practice remains to be seen. It is important, though, for the above ideals to be included in the planning of any educational programme and the value of Health Promotion and Service Management categories be looked at critically.

SUMMARY

Attending continuing medical education courses does increase knowledge but could be more effective. Not all attenders benefit, however, in fact 16% scored less post course suggesting that there is a mismatch in the educational need of the individual and what the course has to offer. The development of personal education plans which are tailored to an individual's needs may address this problem.

Small group teaching is the most effective means of increasing knowledge and yet most of the courses available are in lecture style form. Course providers need to be trained in the most effective methods of education.

An individual's initial knowledge may have some influence on the level of knowledge gain and therefore pre course testing may have some part to play in planning education.

Disease Management courses caused the most gain in knowledge perhaps because it is more relevant to a doctor's daily practice than HP

or SM. The initial knowledge level for HP and SM was high anyway and must cast doubt on the value of artifically dividing education into categories.

Sessional Value	DM			HP			SM		
	Scheme	Non Scheme	Drug Co.	Scheme	Non Scheme	Drug Co.	Scheme	Non Scheme	Drug Co
>1.00	2	28	1	1	7	0	0	77	0
=1.00	205	90	32	103	29	10	159	82	12
=0.5	46	47	34	13	13	3	24	24	2
Subtotal	253	165	67	117	49	13	183	183	14
Total		**485**			**179**			**380**	

Total No. of courses in West of Scotland, All Sources = 1044

Table 1 - Total number of courses held in West of Scotland 1.9.92 - 31.3.93

		DM	HP	SM
Format	Lecture	2	1	0
	Lecture + Discussion	8	5	5
	Lecture, Small Groups	2	2	2
Sessional Value	=0.5	3	0	1
	=1	9	8	5
	>1	0	0	1

Table 2 - Format and sessional value of meetings

		Category	Scheme	No. Attender	Mean MCQI	Range	Mean MCQII	Range	P value	Confidence Int.
1.	Rheumatology	DM	Yes	15	18.6	16-22	20.1	17-24	0.002	0.7, 2.5
2.	Snoring and Sleep Apnoea	DM	Yes	7	11.8	9-14	15.1	12-17	0.1	1.1, 5.6
3.	Prescribing Seminar-HRT	DM	Yes	36	17.1	11-22	18.5	11-22	0.001	0.7, 2.2
4.	Paediatric Neurology	DM	Yes	29	12.7	9-18	17.0	13-20	<0.001	3.2, 5.2
5.	Parkinson's Disease	DM	Yes	17	16.5	11-24	18.8	15-22	0.003	0.9, 3.6
6.	Paediatrics	DM	Yes	21	17.0	9-22	21.3	16-23	<0.001	2.7, 5.6
7.	Caecum to Rectum	DM	Yes	19	14.3	9-19	17.2	12-20	0.006	1.0, 5.3
8.	Ophthalmology	DM	Yes	9	17.4	10-21	20.7	18-22	0.1	-1.3 6.9
9.	Asthma	DM	No	15	19.2	14-23	22.7	20-24	<0.001	1.9, 5.0
10.	Sports Medicine	DM	No	54	11.8	4-17	13.3	8-19	<0.001	1.1, 2.2
11.	Gastroesophageal Reflux	DM	No	20	17.4	11-24	20.5	14-25	<0.001	2.0, 4.3
12.	More than Blood Pressure	DM	No	34	14.2	10-21	19.3	15-22	<0.001	3.3, 5.1
13.	Diabetic Clinic	HP	Yes	18	17.6	12-20	21.6	16-24	<0.001	2.9, 5.2
14.	The Health Check	HP	Yes	12	17.5	13-20	19.7	16-21	0.02	0.4, 3.7
15.	Contraception	HP	Yes	23	18.6	11-23	20.3	16-25	<0.001	2.9, 4.9
16.	Health Promotion	HP	Yes	16	20.3	18-23	21.5	19-23	0.02	0.3, 2.4
17.	Health Promotion & Elderly	HP	Yes	18	14.8	11-18	16.0	11-18	0.1	-0.3, 2.7
18.	Health Promotion	HP	Yes	12	17.5	14-22	19.0	14-22	0.1	-0.6, 3.5
19.	Psychology of H.P.	HP	Yes	11	18.2	15-22	20.6	18-23	0.003	1.0, 3.8
20.	Traveller's Health	HP	No	44	18.0	11-22	20.7	11-25	<0.001	1.9, 3.5
21.	Medical Jurisprudence	SM	Yes	26	21.1	16-24	22.0	18-24	0.02	0.2, 1.7
22.	Major Incidents	SM	Yes	8	19.3	16-20	18.6	16-21	0.55	-3.0, 1.7
23.	Management Initiatives	SM	Yes	10	14.9	5-18	15.6	10-19	0.5	-1.7, 3.2
24.	Audit	SM	Yes	25	16.4	12-20	19.2	16-22	0.001	1.3, 4.3
25.	Coaching and Appraisal	SM	Yes	8	14.8	13-17	19.6	16-22	<0.001	3.1, 6.7
26.	Fundholding	SM	Yes	17	16.2	11-21	17.2	13-21	0.3	-1.0, 3.1
27.	Care in the Community	SM	Yes	27	17.2	14-20	19.7	16-23	<0.001	1.6, 3.4

Table 3 Master table of MCQ scores of courses by category, scheme, mean scores and significance

		Category	Scheme	No. Attender	Mean Control	Mean Control 2	P Value	Confidence Int.
1.	Rheumatology	DM	Yes	15	7.4	7.3	0.87	-0.9, 0.8
2.	Snoring and Sleep Apnoea	DM	Yes	7	5.8	7.8	0.09	-0.5, 4.5
3.	Prescribing Seminar-HRT	DM	Yes	36	8.2	8.3	0.77	-0.2, 0.3
4.	Paediatric Neurology	DM	Yes	29	7.4	7.5	0.35	-0.3, 0.4
5.	Parkinson's Disease	DM	Yes	17	6.5	5.9	0.05	1.2, -0.01
6.	Paediatrics	DM	Yes	21	6.9	6.9	0.77	-0.4, 0.3
7.	Caecum to Rectum	DM	Yes	19	4.8	5.3	0.33	-0.5, 1.5
8.	Ophthalmology	DM	Yes	9	6.6	6.0	0.07	-1.3, 0.1
9.	Asthma	DM	No	15	4.2	4.5	0.33	-0.4, 1.05
10.	Sports Medicine	DM	No	54	5.0	4.8	0.24	-0.7, 0.2
11.	Gastroesophageal Reflux	DM	No	20	4.6	4.6	0.35	-0.6, 0.3
12.	More than Blood Pressure	DM	No	34	7.0	6.9	0.3	-0.6, 0.2
13.	Diabetic Clinic	HP	Yes	18	7.8	7.7	0.42	-0.6, 0.3
14.	The Health Check	HP	Yes	12	7.5	7.3	0.51	-0.8, 0.4
15.	Contraception	HP	Yes	23	7.8	8.0	0.1	-0.04, 0.5
16.	Health Promotion	HP	Yes	16	8.1	8.0	0.79	-0.6, 0.5
17.	Health Promotion & Elderly	HP	Yes	18	6.9	6.8	0.77	-0.4, 0.5
18.	Health Promotion	HP	Yes	12	5.3	5.1	0.59	-0.9, 0.5
19.	Psychology of H.P.	HP	Yes	11	5.5	4.9	0.3	-1.8, 0.6
20.	Traveller's Health	HP	No	44	5.4	6.0	0.05	-0.01, 1.1
21.	Medical Jurisprudence	SM	Yes	26	6.0	6.4	0.4	-0.6, 1.4
22.	Major Incidents	SM	Yes	8	7.6	7.9	0.18	-3.0, 1.7
23.	Management Initiatives	SM	Yes	10	9.0	8.5	0.47	-2.05, 1.05
24.	Audit	SM	Yes	25	7.3	7.1	0.48	-0.8, 0.4
25.	Coaching and Appraisal	SM	Yes	8	7.1	7.1	1.0	-0.6, 0.6
26.	Fundholding	SM	Yes	17	8.6	8.4	0.27	-0.6, 0.2
27.	Care in the Community	SM	Yes	27	6.1	6.7	0.04	0.03, 1.3

Table 4 Master table of the control scores by category, scheme and significance

	Reasons	Total (%)	DM	HP	SM
a)	To gain sessions for PGEA	413 (80.0)	188 (45.5)	134 (32.4)	91 (22.0)
b)	Genuine interest in topic	366 (70.9)	197 (53.8)	100 27.3)	69 (18.9)
c)	I know little about topic and wanted to learn more	216 (41.8)	106 (49.1)	41 (19.0)	69 (31.9)
d)	To meet colleagues	127 (24.6)	66 (52.0)	38 (29.9)	23 (18.1)
e)	To use information gained to change my practice	241 (57.9)	121 (50.2)	76 (31.5)	44 (18.3)
f)	I recognise this as a gap in my knowledge and wanted to fill this educational need	222 (43.0)	108 (48.6)	54 (24.3)	60 (27.0)
g)	I feel knowledgeable about this topic and wanted an update	131 (25.4)	85 (65.0)	33 (25.2)	13 (9.9)
h)	Don't know	4 (0.8)	2 (50.0)	1 (25.0)	1 (25.0)
i)	Other	5 (0.1)	2 (40.0)	2 (40.0)	1 (20.0)

Table 5 - Reasons given for attendance

Reason	Yes (mean)	No (mean)	95% Confidence interval for difference in mean range
a	2.6	2.2	-0.29, 1.1
b	2.5	2.5	-0.55, 0.6
c	2.4	2.6	-0.66, 0.4
d	2.6	2.5	-0.77, 0.5
e	2.7	2.3	-0.12, 0.9
f	2.6	2.4	-0.32, 0.7
g	2.4	2.5	-0.45, 0.7

Table 6 - Mean change of knowledge of those who gave reasons a-g and those who did not

Course	Reason	Yes (mean)	No (mean)	p value
Caecum to Rectum (DM)	g	6.0	2.0	0.001
Gastroesophageal Reflux (DM)	e	4.4	1.9	0.01
	f	5.0	2.5	0.002
Audit (SM)	b	0.3	3.7	0.002
	f	0.9	4.7	0.002

Table 7 - Reason for attendance and knowledge gain by individual course

Mean Difference MCQI-II	Total No. G.P.'s	Reason a	b	c	d	e	f	g	h	i
Top 1/3 courses	157	126* (80.3)	125* (79.6)	62 (39.5)	43 (27.4)	80* (51.0)	72 (45.0)	47 (21.9)	2 (1.3)	2 (1.3)
Middle 1/3 courses	176	159* (90.3)	108* (61.4)	76 (43.2)	46 (26.1)	96* (51.5)	78 (44.3)	40 (22.7)	-	2 (1.1)
Lower 1/3 courses	172	128* (74.4)	133* (77.3)	78 (45.3)	38 (22.1)	65* (37.8)	72 (41.9)	44 (25.9)	2 (1.2)	1 (0.6)

* Denotes statistical significance.

Table 8 - Number of G.P.'s in each group giving reasons a-i

Highest Mean Difference (3.1 - 5.1)		Middle Mean Difference (1.5 - 2.9)		Lowest Mean Difference (-0.7 - 1.5)	
Name	Category	Name	Category	Name	Category
More than Blood Pressure	DM	Caeacum to Rectum	DM	Health Promotion	HP
Coaching and Appraisal	SM	Audit	SM	Sports Medicine	DM
Paediatric Neurology	DM	Traveller's Health	HP	Prescribing Seminar - H.R.T.	DM
Paediatrics	DM	Care in the Community	SM	Health Promotion	HP
Diabetic Clinic	HP	Psychology of Health Promotion	HP	Health Promotion & Elderly	HP*
Asthma	DM	Parkinson's Disease	DM	Fundholding	SM*
Snoring and Sleep Apnoea	DM	Health Check	HP	Medical Jurisprudence	SM
Ophthalmology	DM*	Contraception	HP	Management Initiatives	SM*
Gastro-oesophageal Reflux	DM	Rheumatology	DM	Major Incidents	SM*

* Denotes not statistically significant gain in knowledge.

Table 9 - Courses ranked by mean differences of MCQI-II

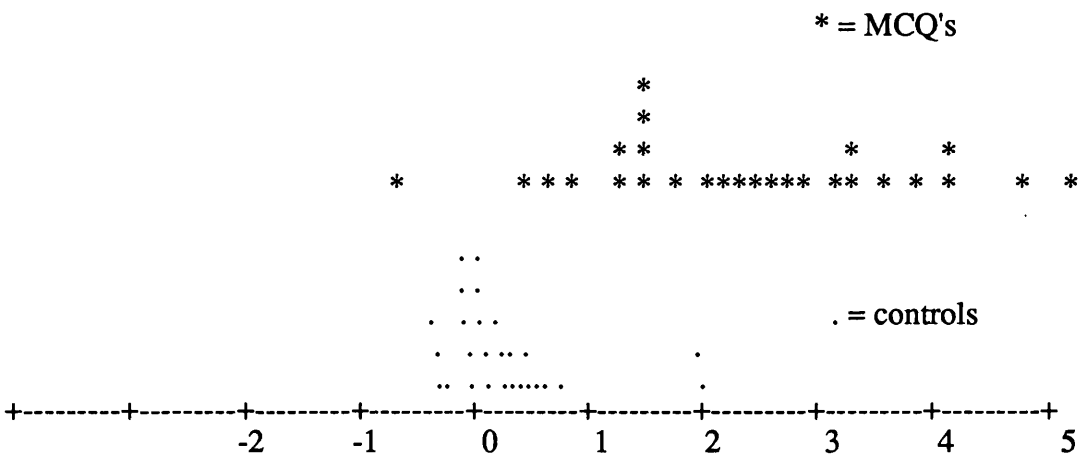


Figure 1 - Dot plot of the differences of mean scores of control and MCQ's

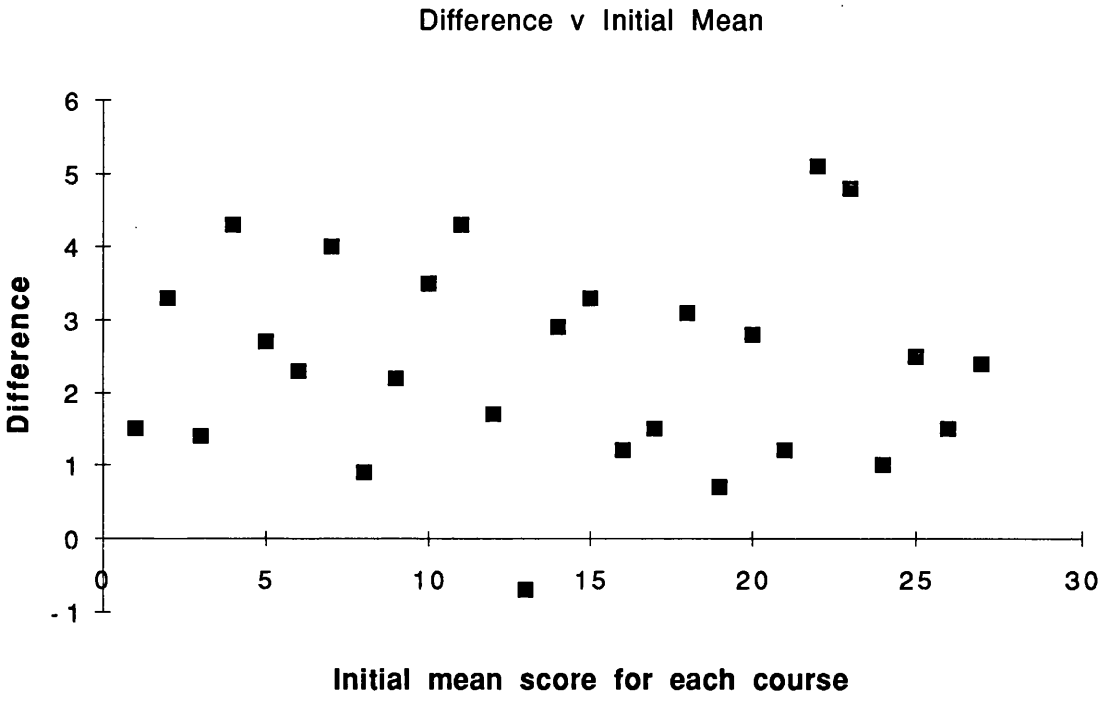


Figure 2 - Mean initial score for each course -v- difference in score

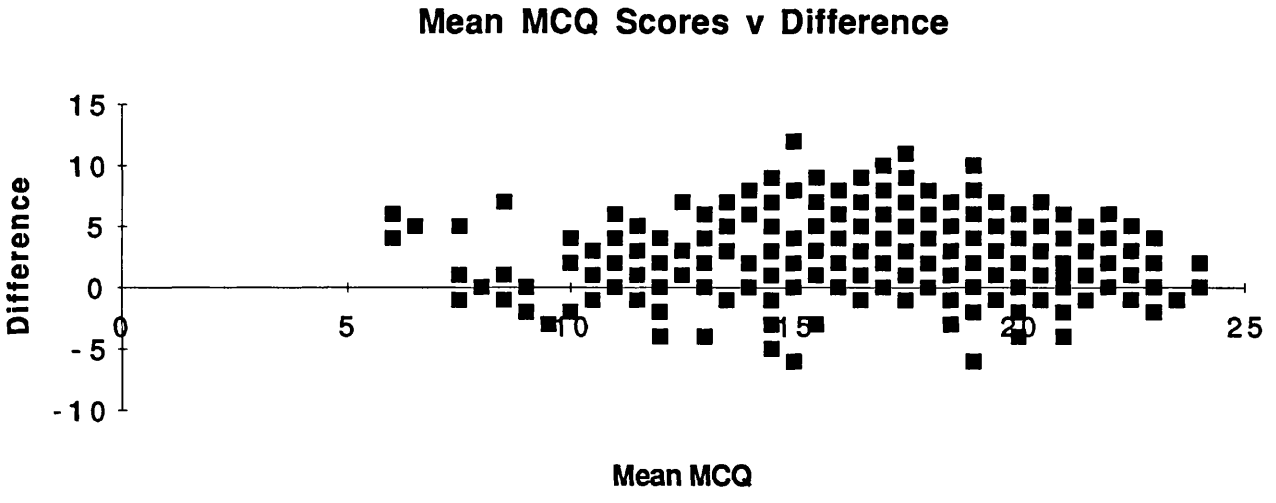


Figure 3 - Mean of individual's scores -v- difference in score

CHAPTER 12

CHAPTER 12

PHASE 2 - MOTIVATION OF GENERAL PRACTITIONERS TO ATTEND POSTGRADUATE EDUCATION

It is clear so far that going to educational activities in the West of Scotland does overall increase knowledge and an individual's reason for attendance may play some part in influencing the level of knowledge gained. Schofield (1987) found that the standard of care offered by a doctor was linked less to his or her knowledge than to factors that affect its application, and the most important of these was motivation. Motivation has been highlighted by Millac (1985) as one of three closely linked problems of continuing medical education along with isolation and a reduction in job satisfaction.

Pickup et al (1983) also found a problem of motivation with 82 per cent of respondents encountering obstacles to their continuing education. Despite this evidence that motivating factors for doctors participating in continuing medical education may influence the effectiveness of these activities, little attention has been paid to the topic. Previous literature such as Reedy et al (1979), Acheson (1974), Durno and Gill (1974), Pickup et al (1983), Shirriffs (1989), Owen et al (1989), Forrest et al (1989), McKnight (1992) and Whynes (1992) have all concentrated on doctors' views on their preferred type of teaching, the timing of courses, their content, the contributors and their views on continuing medical education.

The first phase of the study shed some light on the motivation of doctors going to courses pre contract. In response to an open question,

"What motivated you to go to educational meetings pre 1989?" 19 different categories were obtained (Table 1).

Interest was mentioned by 842 (55.3%) and was the sole motivator in 506 (33.2%) cases. 58 (3.8%) were motivated by a financial incentive. 456 (29.9%) were keen to update their knowledge whereas 12 (0.8%) had identified and were trying to address an educational need. For 137 (9%) the social aspect and ability to meet colleagues was important. The type of venue, food and locality were important to a small number.

Motivation Post Contract

The first question on the course evaluation sheet which was attached to the second set of multiple choice questions was an open one asking what motivated the doctor to attend that particular course and the second question gave nine reasons for attendance and asked the G.P. to indicate which were the most applicable for them. The reasons for attendance have previously been listed but will be stated below again for ease of reference. More than one response could be chosen.

a) to gain sessions for the postgraduate education allowance
b) genuine interest in the topic
c) I know little about the topic and want to learn more
d) to meet colleagues
e) to use information gained to change my practice
f) I recognised a gap in my knowledge and felt the course filled an educational need.
g) I feel knowledgeable and want an update
h) don't know
i) other.

The evaluation sheet also dealt with topics other than motivation but these will be discussed in subsequent chapters. The X^2 test was used for comparison of proportions and follow up comparisons were done using Bonferroni's method of adjusting p values. (Altman, 1991)

Results

A total of 551 doctors attended the 27 randomly selected courses but not all completed the evaluation sheets.

Motivation

33 different responses were obtained. (Table 2) 95 (17.2%) failed to answer this question leaving 457 to be analysed. 198 (43.3%) of general practitioners mentioned interest as one of the motivating factors and 132 (28.8%) highlighted it as the sole influence. 76 (16.6%) purely went for the postgraduate education allowance and a further 76 (16.6%) felt that this was a motivator in conjunction with other factors.

79 (17.3%) were keen to improve their knowledge while 15 (3.3%) were wanting to do this as well as gain their allowance, enjoy the social contact and take advantage of the suitable timing. Only 2 (0.4%) mentioned changing the way in which they practiced. 40 (8.7%) felt they were knowledgeable in the topic and were looking for an update. 40 (8.7%) were motivated by the venue, food and social contact.

Of the 258 doctors going to DM sessions, 105 (40.7%) cited interest in a subject as the prime motivator, 57 (38.8%) going to HP sessions and 36 (32.4%) going to SM. This did not reach statistical significance (X^2 1.81, p=0.4).

53 of the 232 who answered this question and attended DM (22.8%) mentioned PGEA as a motivator, 60, ie. 46.5% of those attending HP had been influenced by PGEA and 40 (41.2%) of SM attenders (X^2 = 24.1; $p<0.001$; HP, SM >DM). 133 (29.2%) of the 457 responders had gone to drug company meetings. Interest was a motivator in 74 (55.2%) compared with 124 (38.3%) attending non drug company meetings (X^2 = 11.44; $p<0.001$). 38 (25%) mentioned the postgraduate allowance whereas 115 (31.6%) attending non-commercial meetings had highlighted it. This was not statistically significant. However, 20.1% attending the scheme meetings wanted to increase their knowledge compared to 9.9% going to commercial ones. This again reached statistical significance $X^2 = 7.7$; $p<0.01$. 26 (19.4%) attending sponsored meetings felt that the venue was important and 15 (11.2%) felt the speaker was too.

37 (24.3%) of doctors attending drug company meetings were motivated by venue, food, speaker and social contact as opposed to 20 (5.5%) who went to the scheme meetings ($X^2 = 40.4$; $p<0.001$).

Reasons For Attendance

516 (93.6%) responded to this question. (Table 4) This is similar to Table 5 of the previous chapter but is included again for ease of reference. Only 25 indicated a single reason with the remainder indicating a combination of 2-7 reasons. The majority, 146, gave three reasons.

To gain sessions for the postgraduate education allowance was the most common reason - 413 (88%). Of those attending HP sessions 134 (91.7%)

were influenced by the financial incentive, 91 (84.2%) of attenders at SM sessions and 188 (73.7%) going to DM $X^2 = 20$; $p<0.001$ with the most significant difference being between HP and DM. PGEA was important to 37 of the 40 people (92.5%) attending drug company meetings compared to 90.7% of those in the scheme. This was not statistically significant. Interest was also important, 366 (70.9%) and was more so in those going to DM than HP or SM - 76.4%, 68% and 62.2% respectively. This did reach statistical significance ($X^2 = 7.69$; $p<0.022$) especially between DM and SM.

41.8% had recognised a lack of knowledge and this was most likely to be in SM where 69 (62.2%) attending these sessions stated this compared to 106 (41.1%) in DM and 41 (27.9%) in HP ($X^2 = 33.2$; $p<0.01$) with each differing significantly from the others. This was confirmed by the results from statement `g' concerning educational need when similar findings were shown in the attenders of SM sessions 60 (54.1%), DM 108 (41.9%) and HP 54 (36.7%) ($X^2 = 9.31$; $p<0.01$ and SM >HP).

There was no significant differences found in the 241 (46.7%) who wanted to use information learned to alter their practice although it did vary between HP 76 (51.7%), DM 121 (46.9%) and SM 44 (39.6%). Eighty five (32.9%) attending DM felt knowledgeable and were looking for an update, 33 (22.4%) in HP and 13 (11.7%) in SM ($X^2 = 18.95$; $p<0.001$; DM >SM).

The social aspect of the meeting was important in 24.6% and there was no difference between the drug company and non-commercial meeting.

Discussion

Sanazaro (1983) has shown motivation to be one of the major influences on quality of care.

Interesting differences have been seen pre and post contract. Finance had little impact on doctors before 1989 with only 3.8% mentioning it as a motivating factor compared to 33.4% post contract and this difference rose even higher to 81.3% when the consumers were asked specifically to indicate their reasons for going. The financial carrot is a more important factor when attending health promotion and service management sessions than disease management and this was found by both the open question on motivation and indicating reasons for attendance. This may be that doctors are familiar with disease management courses both in their undergraduate and postgraduate training and can only be encouraged to attend the other categories by giving a reward. This does not appear to be a good foundation for learning as a similar proportion of doctors cited this as a reason for attendance irrespective of whether there was a significant change in knowledge or not.

Interest was the main sole motivator pre contract and was still a major factor post contract especially for Disease Management. It may be that the general practitioners see this as more relevant to their day to day work than Health Promotion or Service Management but has no major influence on knowledge gain.

Every doctor has a different educational need and lack of knowledge was recognised by 29.3% pre contract as opposed to 15.3% post contract.

When asked to indicate the reason for attendance a lack of knowledge was recognised in 41.8%. This finding would suggest that this is not a main motivator but is still a factor in attendance at meetings. The doctors felt they were least knowledgeable in SM as opposed to DM or HP the differences between the three being statistically significant and this finding was again found when doctors were asked about educational need. Service Management covers areas such as fundholding, staff appraisal, time management and these may be alien to the G.P. whereas the other two categories deal with clinical work which he or she will be more familiar. However, the fact that the overall initial mean scores for DM, HP, SM were 15.6, 17.8 and 17.1 respectively would suggest that doctors tend to underestimate what they are good at and overestimate their deficiencies.

Encouragingly 46.7% were intending to use information gained to alter their practice. Whether this will happen or not remains to be seen. Interestingly, the most influential category for change although not statistically significant was HP even though doctors had felt knowledgeable about it, and were least interested in it. Interpretation of this finding should be done with caution as major contractual changes with regard to Health Promotion were planned during the study period and this may have influenced change rather than education. The number of drug company meetings included in this study was small but a reasonable number of people attended them. Differences emerged between the commercial and the scheme meetings. 20.1% attending scheme meetings wanted to increase knowledge compared to 9.9% going to commercial ones ($X^2 = 7.70$, $p<0.01$), postgraduate education allowance was a motivator in 92.5% attending drug company meetings compared to 90.7% in the scheme. The

importance of social contact with colleagues was the same between the two groups but factors such as the venue, quality of food and reputation of the speaker were important motivating factors for commercial meetings.

The differences between the groups with relevance to financial incentive and interest is less apparent when asked an open question on motivation. This may be because doctors will tend to put down one factor which comes to mind whereas the question on reasons behind attendance uncovers a more complex group of motivators which are important for the individual.

The previous chapter highlighted that reason for attendance may have some influence on knowledge gain, albeit a small one. Significant differences were found in motivation and reason for attendance for the different categories of courses and they therefore exert most influence when doctors are deciding which meetings to attend.

The 1990 contract has definitely altered the motivation of doctors at educational meetings. The financial incentive has been effective in terms of numbers attending but has no effect on knowledge gain. Doctors are now spending a great deal of time attending educational activities and it is important to make these attendances worthwhile. Eskin (1981) postulated that doctors were motivated by the need to keep up to date. These findings have exploded this myth and exposed a complicated web of factors underlying doctors attendances. The challenge now is for educational organisers to relate motivation to methods appropriate to adult learning. If courses in Health Promotion and Service Management are to stay we must look at ways of making

them more attractive to doctors so that they are not purely "going for the money". There do appear to be subtle differences in the reasons for attendance at commercial meetings and these are not necessarily the ones most conducive to learning. It is therefore important that these are closely monitored to maintain high educational value so that there are no inequalities in the provision of continuing medical education.

SUMMARY

Finance has had a major effect on attendance at postgraduate meetings especially on HP more than SM or DM ($p<0.001$) but it is not related to increase in knowledge.

Doctors' perception of their knowledge did not correlate with their initial mean scores and they felt least at ease with SM than DM or HP ($p<0.001$). Those attending non commercial meetings were more keen to increase their knowledge than those going to drug company ones and it is important that these events should be closely monitored. Motivation is a complex issue which would appear to have only a minimal effect of knowledge gain.

Motivation pre 1989	No.	%	Motivation pre 1989	No.	%
Interest	506	(33.2)	Being a trainer	8	(0.5)
Interest and Update	179	(11.8)	Practice Policy	2	(0.1)
Interest and `Old allowance'	47	(3.1)	Away from work	13	(0.9)
Interest and Social	110	(7.2)	Not Motivated	13	(0.9)
Update	277	(18.2)	Habit	6	(0.4)
`Old Allowance'	11	(0.7)	Venue	3	(0.2)
Social	27	(1.8)	Sign of Maturity	1	(0.1)
Educational Need	12	(0.8)	Food	2	(0.1)
Locality	20	(1.3)	Don't Know	1	(0.1)
Total	1189		+	49	
			1238		

Table 1 - Motivation of responders pre 1989

Motivation post contract	No.	%	Motivation post contract	No.	%
Interest	132	(28.8)	Social & Food	2	(0.4)
Interest and PGEA	41	(9.0)	Timing	4	(0.9)
Interest and Knowledge	5	(1.1)	PGEA and Timing	2	(0.4)
Interest and Venue	6	(1.3)	Speaker	11	(2.4)
Interest and Speakers	3	(0.7)	Recommendation	3	(0.7)
Interest and Timing	2	(0.4)	Drug Co. Rep.	1	(0.2)
Interest, PGEA, Venue	8	(1.7)	Organiser	2	(0.4)
Interest, Update, PGEA	1	(0.2)	Don't Know	4	(0.9)
PGEA	76	(16.6)	PGEA, Improve Practice	1	(0.2)
PGEA, Update	18	(3.9)	Subject, Speaker, Venue	2	(0.4)
PGEA, Venue	2	(0.4)	Knowledge and Timing	2	(0.4)
PGEA, Social, Update	1	(0.2)	Knowledge and Social	1	(0.2)
PGEA, Knowledge	7	(1.5)	PGEA, Good Meeting	1	(0.2)
To Increase Knowledge	79	(17.2)	To Change Practice	1	(0.2)
Update	20	(4.4)	Part of a Course	1	(0.2)
Location/Venue	13	(2.8)	Venue and Food	5	(1.1)

Table 2 - Motivation of General Practitioners Post Contract

	Disease Management		Health Promotion		Service Management	
	No.attending courses	No.completing courses	No.attending courses	No.completing courses	No.attending courses	No.completing Courses
Scheme	153	146	110	107	121	111
Non Scheme	123	112	44	40	0	0
Total	276	258	154	147	121	111

Table 3 - Number of doctors attending the courses and completing the evaluation sheet by educational category and scheme -v- non scheme.

	Reasons	Total (%)	D.M.	H.P.	S.M.
a.	To gain sessions for PGEA	413 (80)	188	134	91
b.	Genuine interest in topic	366 (70.9)	197	100	69
c.	I know little about the topic and wanted to learn more	216 (41.8)	106	41	69
d.	To meet colleagues	127 (24.6)	66	38	23
e.	To use the information gained to change my practice	241 (57.9)	121	76	44
f.	I recognise this area as a gap in my knowledge and wanted to fill this educational need	222 (43)	108	54	60
g.	I feel knowledgeable about this topic and wanted an update	131 (25.4)	85	33	13
h.	Don't know	4 (0.8)	2	1	1
i.	Other	5 (1.0)	2	2	1

Table 4 - Reasons given for attendance

CHAPTER 13

CHAPTER 13

PHASE 2 - CHANGE AND THE GENERAL PRACTITIONER IMMEDIATELY POST COURSE

Change is endemic in general practice, (Pringle 1992) and the 1990 Contract has probably been the most revolutionary in the history of the Health Service. As reported by Ellis (1989) the Government's commitment to change the N.H.S. Contract was in response to an unpublished report of 1988 by management consultants Binder Hamlyn on the feasibility of applying cash limits to the family practitioner services and their driving force has been to achieve greater value for money with little real thought to quality of care. The financial inducements have made education a marketable commodity but Martin et al (1980) showed that financial incentives were poor in changing doctors behaviour and Horder (1986) cast doubt on the efficacy of monetary bonuses to promote change.

This study has shown that general practitioners can acquire knowledge by attendance at some courses but it is the application of this knowledge to daily practice rather than the acquisition of this knowledge which is important. Even if doctors are well informed they often do not perform in their surgery according to the level of their knowledge and skills.

In the 1950's Craddock considered that the essential virtues of the good G.P. were "knowledge, personal care and wisdom". By the 1980's the attributes of a good general practitioner were based in education, knowledge, skills and attitudes Berrington (1987). However, Fox et al

(1991) countered this argument that CME was always or most often the agent in professional and life changes made by doctors. They pointed out that there are many reasons why doctors change and in only two-thirds of instances was learning instrumental.

The relationship between change and attendance at courses was investigated by asking two open questions as part of the course assessment sheet given to general practitioners immediately after the meeting along with MCQII.

The question was as follows:

As a result of attending the course in what way(s), if any, do you intend to implement change -

a) in the organisation of your practice? (please be specific).
b) in the way in which you personally practice? (please be specific).

Results

1. Personal Changes

494 doctors answered this question. 232 (47%) said that they would change and 262 (53%) said that they would not.

401 different types of change were put forward with 8 people failing to specify (Table 1).

The biggest impact was on prescribing which accounted for 28.9% of the changes.

Category

DM courses accounted for 130 (56%) of the changes, HP, 52 (22.4%) and SM, 42 (18.1%). This reached statistical significance with DM being more influential than either HP or SM ($p<0.02$ and $p<0.05$ respectively). No difference was found between HP and SM.

The DM courses which had the greatest influence on intended personal changes were Ophthalmology, Paediatrics, Parkinson's Disease and Rheumatology with 80%, 71.4% and 64.3% of attenders respectively indicating their intention to change (Table 2).

The most influential courses in HP were Diabetic Clinic (78.9%) and Traveller's Health (43.2%) and in SM they were Medical Jurisprudence (68%) and Coaching and Appraisal (50%) (Tables 3 and 4).

The intended changes could be grouped into 5 categories of Patient Management, Clinics and Prevention, Practice Organisation and Administration, Personal Development and long term care.

By far the biggest impact was on patient management especially the DM courses and less so for HP and SM. SM tended to influence Practice Organisation and Administration and HP - clinics and prevention (Table 5) although there was some overlap with all three categories.

Scheme - v - Sponsored Meeting

72 (31%) of doctors who intended to change attended drug sponsored meetings as opposed to 160 (69%) who attended scheme ones. This was not statistically significant $p<0.5$.

Knowledge

215 (50.4%) of doctors attending courses with a significant increase in knowledge were intending to change compared to 17 (25%) who had chosen courses which failed to improve knowledge. This was significant (X^2 15.26, $p<0.001$).

2. Practice Changes

488 G.P.'s responded to this question. 177 (36.3%) intended to make some change to their practice. 104 (20.6%) doctors were going to make changes personally and at a practice level and 67 (13.3%) only at a practice level.

51 changes were indicated by the doctors - 7 G.P.'s failed to specify.

Although there was duplication with the personal changes Clinics and Protocols were the most commonly mentioned practice change accounting for 34 (19.2%) and 23 (13%) of all the changes mentioned. Prescribing was only mentioned by 7 people.

The changes fell into 4 broad categories of Patient Management, Practice Organisation and Administration Prevention and Practice Development.

32.9% of changes were related to patient care, 38.2% to practice organisation, eg. staffing, appointments and audit and 27% to prevention.

Category

DM courses accounted for 44.6% of changes, HP for 23.7% and SM for 31.6%.

Doctors who attended SM courses were more likely to indicate a willingness to change their practice than those attending HP ($p<0.02$) and DM ($p<0.01$). The DM courses which had the most influence on change were Parkinson's Disease and Paediatrics with 88.2% and 85.7% of attenders respectively responding positively. In HP the diabetic clinic course was the most influential (52.6% attenders) and in SM it was the courses on Audit (83.3%) and Coaching and Appraisal (62.5%).

Scheme - v - Sponsored Meeting

35 (25.5%) of doctors attending sponsored meetings felt they might make some alterations to the practice. Whereas, 142 (56.6%) attending non promotional meetings were similarly influenced. This difference was statistically significant ($p<0.01$; X^2 9.47).

Knowledge

Courses which showed a significant increase in knowledge also seemed to promote practice changes. 162 (38.7%) attending these courses indicated their intention to change. The difference between this and courses which failed to improve knowledge was significant (X^2 7.34, $p<0.01$). However, there was little correlation between the level of knowledge improvement for each course and intention to change either at a personal or practice level as when the number of attenders with positive responses was plotted against the mean difference of the scores, a random scatter was obtained (Figure 1).

Discussion

We are all creatures of habit to some extent and doctors are no exception. Different people have underlying psychological, social and economic characteristics which cause them to take up new ideas at different rates. This applies equally to doctors who are a very varied group of people with different attitudes and circumstances. This may explain why only 47% of doctors were thinking of making personal changes and 36.3% practice ones. These figures are much less than the two-thirds of people estimated by Fox et al (1991) to be influenced by learning.

Allen and Wilson (1992) noted that changes resulting from a perceived need internally are more likely to be welcomed than those imposed from outside. Prescribing changes were the most commonly found alteration in the doctors and in broad terms Patient Management was influenced both on a personal and on a practice level. These areas are bread and butter to general practice and therefore most useful to the doctor and again highlights the importance of education which is relevant for day to day work. This would also explain why DM courses were more influential on personal changes than on practice ones. The high level of prescribing changes is likely to account for much of the influence of the pharmaceutically sponsored meetings and it is interesting to note that as far as practice changes were concerned only 7 people mentioned prescribing and the influence of drug company courses was significantly less. This adds to the increasing concern about the promotional potential of these meetings.

The courses which influenced their attenders most both at a personal and practice level were similar, eg. Paediatrics, Parkinson's Disease, Diabetic Clinic, Coaching and Appraisal were all topics commonly encountered in practice and most useful to the doctor. The Clinics and Protocols were the most commonly mentioned practice change and this may have been influenced by the alteration in Health Promotion regulations imposed during the study. Service Management courses were the biggest catalyst for practice change for those attending them and many of these were related to organisation and administration. The low level of change following the fundholding course was surprising but the doctors attending were mainly fundholders anyway so there may have been little for them to learn. Teamwork is important in changing patterns of activity, Spiegal et al (1992). General practitioners do not work alone and other members of the team may oppose changes as they may be costly and interfere with existing routines. This may explain the higher number of personal changes found in the study as it is easier to change oneself rather than a whole practice team. The decision to adopt an idea depends on a personal calculation of the cost and benefits by the doctor and Grol (1990) has shown that single handed doctors are less likely to change.

Courses which significantly increase knowledge are also more likely to cause change presumably because doctors are taking away new ideas. It cannot only be the meetings themselves which cause change. The overall effect on change by attendance was disappointing with 187 (37.9%) not changing at all. Barriers to implementing change have been identified. As well as those within the practice setting which have been discussed there are also barriers with the G.P.'s such as competence when the doctor may be unaware of gaps in his knowledge or may not

have the necessary skills to change; motivation or attitude of the doctor who may treat the initiators or promoters of change with suspicion; and finally the doctor's personal characteristics which includes learning style, self confidence and age.

Apart from the factors mentioned which can facilitate change such as course category, knowledge gain and whether a sponsored meeting or not there are other influences which can affect a doctor's behaviour which cannot be quantified. Horder (1986) found little evidence for the influence of audit on behaviour but personal contact with doctors, nurses and other colleagues and to a lesser extent with patients, is relatively effective, both in influencing teamwork in a practice and in more formal education.

There were many areas of change highlighted with some being applicable to both the individual and the practice. There was also a great deal of overlap in the influence of the three course categories of DM, SM and HP. Medicine is not a black and white subject and yet education has been compartmentalised and these findings would suggest that this split may be ill defined and artificial.

Not only was there a variety of changes but many were extremely subtle such as altering advice to patients, improving strapping technique or carrying out more thorough assessment of hypertensive patients. This highlights the great difficulty of measuring or quantifying data on patient care and as Grol (1992) pointed out, changing medical practice to improve patient care is probably the most complex step in a quality assurance system.

If the general practitioners do carry out their intentions then CME is a catalyst for change but the level is disappointingly low and the impact as far as patient care is concerned may not be noticeable. Not all change is necessarily good and if G.P.'s resist changing their behaviour this may be for valid reasons.

SUMMARY

Doctors do appear to be willing to alter their habits both at a personal and practice level as a result of attending a meeting although the level of intended change is low.

Prescribing was the most commonly found change and the courses which influenced their attenders most dealt with topics encountered daily in practice emphasising the importance of relevance of the content of the meeting.

Personal change would appear to be easier than practice change as doctors find it more difficult to overcome internal barriers.

The intended changes encountered would impinge on patient care if the doctors manage to follow through with them.

Intended Change	DM	HP	SM	Total
Prescribing	63	3	1	67
Prescribing & Investigation	1	-	-	1
Referral	10	-	2	12
Investigation	6	1	-	7
prescribing & Referral	3	-	-	3
Prescribing & Diagnosis	2	-	-	2
Diagnosis	4	-	-	4
Examination	13	7	-	20
Advice	4	17	-	21
Better use of support serv.	-	1	1	2
Management	11	2	-	13
Strapping	3	-	-	3
Examination & Strapping	2	-	-	2
Protocols	1	1	-	2
Clinic	1	1	-	2
Tailor H.P. to patient	-	4	-	4
More opportunistic H.P.	-	1	-	1
Longer consultations	-	1	4	5
Improve Communication	-	1	-	1
Change appointments	-	-	2	2
Contact Medical Defense early	-	-	1	1
Total	124	40	11	175

Intended change	DM	HP	SM	Total
More patient educ.	-	-	2	2
Improved Equipment	3	-	-	3
Time Management	-	-	1	1
Read more	3	6	1	10
Treat CHD`at risk'	-	-	1	1
Follow up non-attenders	-	1	-	
Imp. notes/legibility	-	-	9	9
Audit	-	-	1	1
Improve Delegation	-	-	1	1
Be more cautious	-	-	4	4
Better data collection	-	-	1	1
More sympathetic to staff	-	-	1	
Better staff education	-	-	1	1
Be calm	-	-	2	2
More aware of long term problems	-	-	1	1
More contact with social workers	-	-	4	4
Less preventive care	-	1	-	1
More awareness of social problems	-	2	-	2
Use motivational interviewing	-	2	-	2
Remove legal documents from notes	-	-	1	1
	6	12	31	49

Table 1 - No. of doctors indicating intended changes by category of course

Course Title	No. attending	Personal Change		Practice Change	
		Yes (%)	No (%)	Yes (%)	No (%)
Rheumatology	14	9 (64.3)	5 (35.7)	2 (14.3)	11 (78.6)
Snoring & Sleep Apnoea	7	3 (42.9)	3 (42.9)	-	6 (85.7)
Prescribing Seminar-HRT	36	18 (50.0)	10 (27.8)	15 (41.7)	14 (38.9)
Paediatric Neurology	30	10 (33.3)	18 (60.0)	5 (16.7)	12 (40.0)
Parkinson's Disease	17	12 (70.6)	5 (29.4)	15 (88.2)	12 (70.6)
Asthma	15	5 (33.3)	10 (66.7)	5 (33.3)	10 (66.7)
Paediatrics	21	15 (71.4)	6 (28.6)	18 (85.7)	3 (14.3)
Caecum to Rectum	19	6 (31.6)	11 (57.9)	6 (31.6)	9 (47.4)
Ophthalmology	10	8 (20.0)	2 (20.0)	1 (10.0)	9 (90.0)
Sports Medicine	53	27 (50.9)	20 (37.7)	1 (1.9)	46 (86.8)
Gastrooesophageal Reflux	20	7 (35.0)	13 (65.0)	1 (5.0)	19 (95.0)
More than B.P.	35	14 (40.0)	16 (45.7)	10 (28.6)	18 (51.4)

Table 2 - Intention to change at personal and practice level of attenders at Disease Management Courses

Course Title	No. attending	Personal Change		Practice Change	
		Yes (%)	No (%)	Yes (%)	No (%)
Traveller's Health	44	19 (43.2)	10 (22.7)	18 (40.9)	13 (29.5)
Diabetic Clinic	19	15 (78.9)	4 (21.1)	10 (52.6)	6 (29.5)
The Health Check	12	3 (25.0)	8 (72.7)	2 (16.7)	9 (75.0)
Contraception	23	4 (17.4)	19 (82.6)	4 (17.4)	19 (82.6)
Health Promotion	16	6 (37.5)	10 (52.5)	4 (25.0)	11 (68.7)
Health Promotion and the Elderly	18	0 (0)	16 (88.9)	3 (16.7)	14 (82.4)
Health Promotion	11	3 (27.3)	8 (72.7)	0 (0)	11 (100)
Psychology of Health Promotion	11	4 (36.4)	6 (54.5)	3 (27.3)	7 (63.6)

Table 3 - Intention to change at personal and practice level of attenders at Health Promotion Courses

Course Title	No. attending	Personal Change		Practice Change	
		Yes (%)	No (%)	Yes (%)	No (%)
Medical Jurisprudence	25	17 (68.0)	5 (20.0)	8 (32.0)	15 (60.0)
Major Incidents	8	1 (12.5)	7 (87.5)	3 (37.5)	5 (52.5)
Management Initiatives	10	1 (10.0)	8 (80.0)	3 (30.0)	6 (60.0)
Audit	30	9 (30.0)	10 (33.3)	25 (83.3)	5 (16.7)
Coaching & Appraisal	8	4 (50.0)	4 (50.0)	5 (62.5)	3 (37.5)
Fundholding	16	4 (25.0)	10 (62.5)	4 (25.0)	9 (56.3)
Care in the Community	26	8 (30.8)	18 (69.2)	6 (23.1)	19 (73.1)

Table 4 - Intention to change at personal and practice level of attenders at Service Management Courses

	DM	HP	SM
Patient Management	126	33	9
Clinics & Prevention	1	9	-
Practice Organisation & Administration	-	1	21
Personal Development	3	7	7
Long Term Care	-	2	5
	130	52	42

Table 5 - Broad categories of personal changes by course category

	DM	HP	SM
Patient Management	45	4	7
Practice Organisation and Administration	5	16	44
Prevention	26	17	13
Practice Development	1	1	1
	77	38	55

Table 6 - Broad categories of practice changes by course category

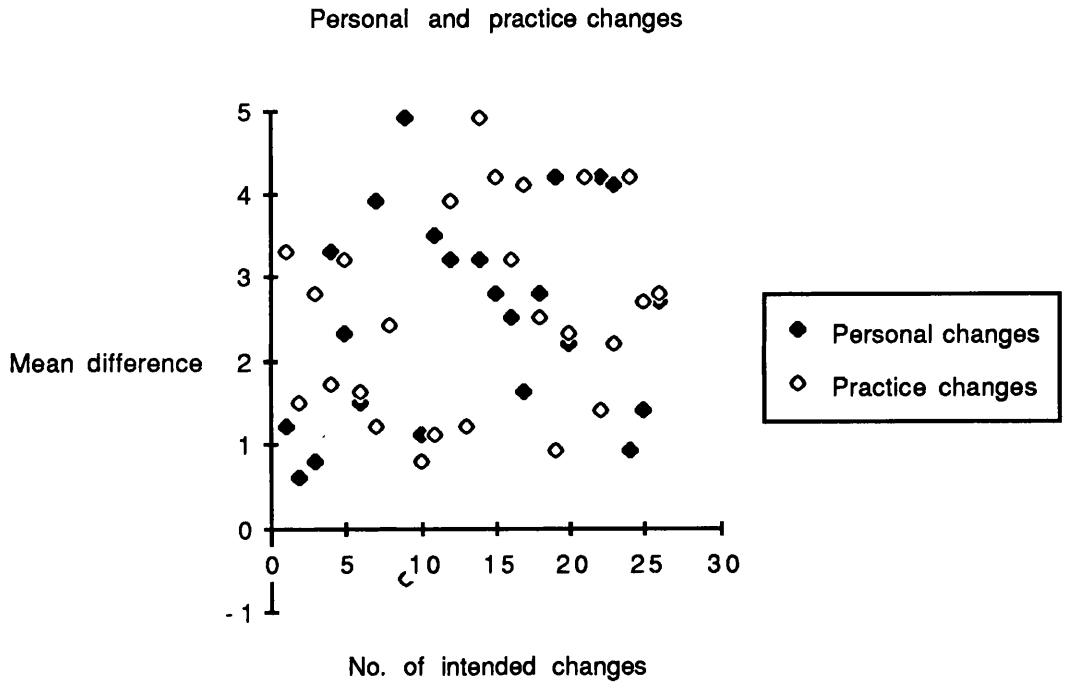


Figure 1 - Number of intended changes at personal and practice level against the mean difference in socres for each course

CHAPTER 14

CHAPTER 14

PHASE 3 - FOLLOW UP OF GENERAL PRACTITIONER'S CHANGES

People often treat change with suspicion and doctors tend to fall into two groups. Those who fear that change is uncontrollable and leaves destruction in its wake and those who see that it can be turned into an opportunity Pringle (1992).

Whatever the category, individuals generally go through a number of stages in changing their behaviour including awareness of a new idea, interest, appraisal, trial and finally adoption. New ideas are often taken up by a few innovators and then the changes slowly spread and are taken up by the early adopters. The rate of change then increases again as the majority become involved and then slows to include the traditionalists. The study so far has shown that attendance at courses which increase knowledge does cause some change but how long is this new knowledge retained and are the intentions put into action?

The first part of the question must remain unanswered as to preserve anonymity and retain the co-operation of the doctors it was not possible to identify individual general practitioners post course. Sisson et al (1992) showed that in medical students the retention of information over a three month period was unpredictable and unrelated to initial scores. Mean scores for identical MCQ's fell by 11.6% after three months and by 22.4% for comparable but non identical questions over a similar time period. Assuming that knowledge does fall off over time, does the same thing happen to intentions to change?

Doctors who had attended the selected courses were contacted by telephone 6 weeks - 2 months afterwards and asked questions on changes which had taken place as a result of attending the course at a personal and practice level. (Appendix 22).

Questions were also asked about barriers to change and also the doctor's opinion on catalysts to change. The timescale of 6 weeks - 2 months was chosen as it would have given the doctors enough time to have tried out any intended changes but was not so long that they would have forgotten all about the course. It was also unlikely that they would have been to another course on the same topic in that time.

Doctors attending more than one of the courses included in the study were contacted only once. A doctor was deemed not available if he/she had not been contacted after three occasions. 470 doctors were eligible to be contacted and 308 telephone responses were available for analysis (65.5%). The remainder were unavailable either for the reasons given above or they were on holiday, had left the practice, were on sick or maternity leave or refused to take part. One hundred and fifty six (50.6%) had gone to DM, 83 (26.9%) to HP courses and 69 (22.4%) to SM. 229 (74.4%) attended scheme meetings and 79 (25.6%) were from pharmaceutically sponsored meetings.

Personal Changes

One hundred and twenty (39%) said that they were aware of making a change and of these 43 (36%) said that the course had been a catalyst for the change whereas the remaining 76 (64%) felt they would have made the change anyway. Eleven different types of change were encountered

(Table 1). Of those who had not changed 6 (3.2%) were intending to alter in the future. The most common influence was in prescribing followed by a heightened awareness of the topic and better advice to patients. Only 2 doctors (0.6%) felt that their lack of change was a fault of the course. 65 (21.1%) disagreed with this while 55 (17.9%) felt that no new knowledge had been imparted and 26 (8.4%) stated that it had not been relevant to their practice. Thirty one (10.1%) felt that the course had confirmed what they already knew, 7 (2.8%) had an expert practice nurse to delegate to and 2 (0.6%) stated that a partner had prevented them from changing.

The most influential courses were Ophthalmology, Parkinson's Disease, Hormone Replacement Therapy, Contraception and Blood Pressure Control.

Category

Sixty eight (56.7%) of changes were from those who attended DM courses, 30 (25%) from those attending HP and 22 (18.3%) from those going to SM. DM accounted for 81.6% of all prescribing changes (X^2=3.1; df2; p<0.1).

Scheme - v - Non-scheme

Scheme meetings accounted for 75% of changes at a personal level compared to 25% who had attended pharmaceutically sponsored meetings. The latter accounted for 18.4% of prescribing changes (X^2=0.04; p>0.5).

Practice Changes

Twenty three (7.5%) of doctors intended to change at a practice level. There were ten areas of change specified some of which were similar to the personal changes mentioned (Table 2).

Eleven (47.8%) felt that going to the course had caused the change while the remainder felt they would change anyway. Eighteen (78.3%) had involved other members of the team in these changes.

Category

DM courses precipitated 7 (30.4%) changes, HP caused 3 (13%) and SM 13 (56.6%). This was significant (X^2=16.7; p<0.001), SM had greater influence than either DM or HP. All the changes related to HP courses were related to clinics.

Scheme

Twenty doctors attending scheme meetings changed at practice level compared to three at non-scheme courses. This was not statistically significant (X^2=2.1; p<0.5).

Only one doctor felt that their lack of change was a fault of the course. 183 (59.4%) disagreed, 18 (5.8%) felt it was not relevant and 76 (24.7%) felt there was no new knowledge. Other excuses included too busy, illness in the practice and an obstructive partner.

Practice Dynamics

Only 55 doctors (17.9%) had shared information gained from the courses with their partners and yet 283 (91.9%) felt that new ideas were

welcomed in their practice. 13 (4.2%) felt that change was sometimes welcomed and 9 (2.9%) felt that their partners were not receptive to change.

Most decisions were taken at a practice meeting 140 (45.5%), others had an informal chat then a meeting 47 (15.3%) while some had a less formal approach and pushed things forward on unanimous decisions taken after general discussion 111 (36%). 5 doctors did not consult anyone and just did it while 6 had great difficulty in changing. Comments such as "Slow and in circles" or "Talk rather than do" were typical of this group. One practice changed by "fighting". Another practice who had regular practice meetings made decisions at them but "They were promptly forgotten about and never put into action".

Catalysts for Change

The doctors were asked about factors which had stimulated change in the practice. They were given four topics and the fifth was an open question.

1. <u>1990 Contract</u>

299 (97.1%) felt this had caused their practice to change. Two (0.6%) felt that it had caused change but had not influenced quality of care.

2. <u>An individual progressive partner</u>

Six doctors were single handed and so this question was not applicable. The remainder were evenly divided with 157 (50.9%) feeling that this applied to their practice and 145 (47.1%) not.

3. Postgraduate Education

Again there was an even split with 123 (39.9%) agreeing and the same number disagreeing. 62 (20.1%) felt it had some impact but very little and 1 (0.3%) doctor did not know.

4. Vocational Training

Eighty nine (28.9%) felt that being a training practice had caused change, 84 (27.3%) did not. 52 (16.9%) felt that it maintained standards rather than cause change and 2 (0.6%) did not know.

5. Other

One hundred and forty one (45.8%) doctors felt that there had been no other catalysts for change. The remainder identified 18 specific catalysts for their practice. Some identified more than one and therefore the figures add up to more than 308 (Table 3).

The most influential were the partners themselves, followed by computerisation, health promotion bands, generic prescribing, fundholding and new premises.

Discussion

It is a great pity that because of the anonymity of the study the findings of the telephone survey could not be matched to the doctors' intentions immediately post course. However, the degree of change which had actually taken place following attendance at courses was disappointingly low. The results confirm that it is easier to change at a personal level than at a practice one but even at that, many of the intentions to change which had been expressed immediately post

course had fallen by the wayside. The ones which came to pass were in the areas of prescribing, advice and referrals and are all things which form the 'tools' of general practice and are being constantly used by the doctor.

Although there was no statistically significant difference shown between DM, HP and SM and their effect on personal change, DM had the greatest influence on prescribing which could have some bearing on the observation that most sponsored meetings are in this category. The courses which caused the highest percentage of change in those attending them were similar to those found immediately post course and covered topics which are seen daily in practice such as Hypertension, Contraception and Hormone Replacement Therapy. This again underlines the importance of relevance of a course.

Some of the more subtle changes highlighted in the previous chapter such as strapping and improved communication were not seen in the follow up. It may be that the time gap was not long enough to allow doctors to try out these ideas but when asked no doctor indicated that they were intending to make these changes in the future.

SM had the most impact on practice change but the overall effect in this area was very low. Why was this? Had the practices been swamped by change following the contract? Ninety two percent of doctors felt that their practice welcomed new ideas and yet only 55 doctors (17.9%) had shared information gained from the courses with their partners. The majority of practices had decision making systems in place and could describe how an idea for change might progress. Despite this, little change had occurred after attendance at meetings. Perhaps

postgraduate education as it stands is not a good vehicle for change. Forty per cent of doctors felt that education had caused change in recent years and a further 20% felt it had some impact and doctors were reluctant to blame the courses for their lack of change. Instead they highlighted the fact that they already had a good knowledge of the subject or were doing things properly anyway thus emphasising the importance of identifying educational needs.

So what are catalysts for change? Overwhelmingly, the doctors felt that the 1990 Contract had caused change. 50.9% felt that an individual progressive partner had stimulated and encouraged them to put talk into action while being a training practice was a catalyst in 39.9% of cases and some felt that its place was to maintain standards rather than cause change.

A change in personnel and the arrival of an enthusiastic new partner does seem to breathe new life into a practice. The other catalysts for change such as health promotion bands, computerisation, generic prescribing, fundholding and new premises are all contract related and are either income generating or have some link with finance.

Change in general practice is slow and therefore the Government often opts for imposition. The finding in this study would suggest that making new regulations does cause change but has it altered patient care? Often, ways are found around the regulations so that intentions are subverted even if the letter of the law is followed. Imposition may be a catalyst for change but it also affects acceptance and morale and this may explain why general practitioners have failed to follow through on their intended changes following attendance at courses.

Postgraduate education has had little impact on changing a doctor's behaviour. The areas which were affected such as prescribing and advice do affect patient care but 59% of doctors who had made change either at personal or practice level would have done it anyway even without going to a course. Contractual changes which directly relate to practice income have undoubtedly caused change but change for the sake of it is not necessarily good and whether it improves patient care remains to be seen.

SUMMARY

Continuing medical education causes some change in doctors' behaviour although slight. The changes found both at practice and personal level were such that they impinge on and will affect patient care. The most influential courses were dealing with everyday clinical topics emphasising the importance of the relevance of education.

Despite many practices having decision making processes in place little change took place as a result of course attendance. Change was most likely to occur if the catalyst was directly linked to practice income.

Type of Change	No.	(%)
Not applicable	188	(61.0)
Heightened awareness	29	(9.4)
Improved case notes	5	(1.6)
Improved legibility	1	(0.3)
Can't remember	3	(0.9)
Increase referrals	9	(2.9)
Prescribing	36	(11.7)
Clinical/Diagnostic skills	7	(2.3)
Equipment	1	(0.3)
Better advice	20	(6.5)
Examination technique	6	(1.9)
Review procedures in practice	3	(0.9)
Total	308	

Table 1 - Types of personal change

Type of Change	No.	(%)
Not applicable	285	(92.5)
Protocol	3	(1.0)
Make notes on house visits	2	(0.6)
Can't remember	1	(0.3)
Improve notes	1	(0.3)
Decrease referrals	3	(1.0)
Equipment	1	(0.3)
Clinic	5	(1.6)
Improve link with social worker	5	(1.6)
Change appointments	1	(0.3)
Prescribing	1	(0.3)
Total	308	

Table 2 - Practice changes

Type of Catalyst	No.	(%)
None	141	(45.8)
New Partner	46	(14.9)
Generic Prescribing	22	(7.1)
Computer	27	(8.8)
Retirement	1	(0.3)
New Premises	17	(5.5)
Practice Manager	4	(1.3)
Fundholding	19	(6.2)
Patient demand	4	(1.3)
Prescribing Adviser	9	(2.9)
Audit	3	(1.0)
Litigation	1	(0.3)
Health Promotion Bands	24	(7.8)
Discussion with colleagues	2	(0.6)
Removed from training practice list	1	(0.3)
Problems in practice	1	(0.3)
Practice Nurse	4	(1.3)
Reading and MSD Course	1	(0.3)
Teaching	1	(0.3)

Table 3 - Types of catalyst for change

CHAPTER 15

CHAPTER 15

CONCLUSIONS - THE FUTURE

The need and importance of continuing medical education (C.M.E.) for general practitioners is well recognised and the challenge has been to make it as effective as possible. The aim of this study was to evaluate C.M.E. following the 1990 contract changes. Three key areas have been addressed:-

1. Acquisition of knowledge.
2. Application of knowledge to implement change
3. Ultimate effect of change on patient care.

These three links are interdependent and must be present if education is to be effective.

1. Knowledge

This study has shown that attendance at courses causes a statistically significant increase in knowledge in the majority of cases but not in everyone. Yet, C.M.E. is important to all. What can be done to ensure that each general practitioner benefits from attendance at courses?

The degree of gain varies from individual to individual and appears to be related to their initial level of knowledge. Self-assessment in the form of pre course assessment could act as a diagnostic test to see if individuals would benefit from participating in the learning activity and would be the first step in helping doctors plan a more meaningful programme of education. Self-assessment could also be used to check

that doctors have gained from the programme and to show that the knowledge could be used in their daily work. The key component of self-assessment is feedback and this is a vital element in the learning cycle. In this study only 32.8% of providers used any form of pre course material and 50.7% used post course assessment. Much of the latter would deal with the learner's views of the course rather than self-assessment.

There does therefore appear to be a need to professionalise the organisers of C.M.E. Education now has to compete for time in the lives of busy general practitioners and it therefore has to catch their imagination, hold their interest and be useful. Providers must be aware of the relevance of the content of the programme, should be aware of the principles of adult learning and should be well versed in the importance of presentation skills, eg. quality and design of printed material, use of visuals, colour and humour, active audience participation and the effectiveness of small group work. This study has shown that knowledge gain is better if small groups are used and yet the majority of education is still in lecture form and prepared by hospital doctors. Course providers need to have their contribution recognised and formalised and a new breed of provider must emerge.

These would not only be involved in organising convenient, relevant and effective education but their role would be extended to help G.P.'s identify their educational needs and advise on the most appropriate type of course for them, thereby individualising education.

Identifying individual needs must be done in a variety of ways. Dunn et al (1985) reviewed eight techniques for doing this and concluded that

Delphi - technique, critical - incident survey and behavioural - event interview were the best methods of establishing need. These recommendations will require a dedicated group of people with protected time, training and financial support.

Not only do the providers need to change but the consumers too need to acquire new attitudes to education. This study has shown that doctors like going to lectures and are less willing to attend the more participative and threatening types of teaching. It is important that the G.P.'s of the future, ie. the trainees, are exposed to these methods and that a willingness for self development is nurtured. Trainees have been shown by Bligh (1992) to be generally committed, enthusiastic and successful independent learners with well developed basic study and problem solving skills which must be fostered. These principles should equally apply in undergraduate teaching so that a new generation of doctors will emerge who will be comfortable with and appreciate the value of self directed education.

Disease Management would appear to encourage more knowledge gain than either Service Management or Health Promotion. This is probably because DM is more closely related to bread and butter general practice and highlights the importance of relevance of a course and should be taken into consideration when planning programmes.

Laxdal (1982) stated that the highest priority learning needs in C.M.E. involved,

a) frequent, important or serious illnesses amenable to medical care;

b) conditions for which management methods have recently been improved;

c) conditions where education can improve previously poor management.

These three criteria fall within the umbrella of DM and doubt must be cast on the value of the artificial categorisation of education into SM and HP. This study has shown that the initial level of knowledge in these two areas was good already and that although useful, are less relevant to a G.P.'s day to day work than DM. It may be that having to include these in a "balanced" programme minimises the educational reward to the doctor. It is probably no coincidence that drug company sponsored meetings are predominantly DM when the likely spin off effect will be on prescribing.

An interesting group are the doctors who score less post course. The fault here could lie with the doctor who may not wish to learn or with the course. Whatever the reason there is a mismatch between the educational activity and the needs of the doctor. The course may not have been relevant to the G.P. or the doctor may have been competent in the area covered or there may have been deficiencies in competence which were not addressed at the meeting. The study illustrated the strength of feeling of the general practitioners following the contract and it may be that this resentment is acting as a barrier to learning. It is therefore necessary to market C.M.E. properly by making it more user friendly and an enjoyable experience for the doctors.

Responsibility for ensuring that effective education is provided also lies with those who accredit meetings. Criteria for accreditation should be much more prescriptive and should have guidelines on pre and post course assessment and the format and content of the meeting. This

process should also prevent meetings which are of a purely promotional nature.

Hopefully, the recommendations detailed above will maximise the knowledge gain for all those attending courses.

2. Change

The underlying principle of C.M.E. is that the acquisition of knowledge will stimulate doctors to change either personally or at a practice level and thus improve their standard of care. This study has shown that the level of change found has been disappointingly low.

Doctors have been forced to make changes to maintain their income in the wake of the 1990 Contract and they may have been feeling swamped. Indeed, 97% stated that the contract had been a catalyst for change in their practice.

Assuming that the participants in this study were telling the truth, there were few barriers to change. Most partners were receptive to new ideas and most practices had decision making processes in place.

The main obstacle found in this study was that the courses attended were either not seen as relevant to the doctor, or there was no new information or the doctor was already fully conversant in the topic. This highlights the importance of individualising education. This requires an increase in the versatility and range of programmes available. Modules of differing levels of advancement in certain topics may need to be developed so that an individual can be slotted into the

correct degree of difficulty and work through a series of courses if applicable.

The word relevance again appears and it is one of the fundamental ingredients highlighted by Harden and Laidlaw (1992) in effective C.M.E. Relevance and identification of educational need go hand in hand when planning a programme. This is supported by the finding that the courses which produced most changes in the doctors covered topics which they dealt with on a daily basis, eg. Ophthalmology, Parkinson's Disease, Hormone Replacement Therapy, Contraception and Blood Pressure Control. Instead of a G.P. attending a course which is appealing he should be involved in strategic planning and have his educational plan carefully mapped out. This study has shown that most doctors attend meetings out of interest and to qualify for the postgraduate allowance. The courses should be linked to changes which the doctor may wish to make in the future either at a personal or practice level, eg. starting a Diabetic clinic. By doing this education becomes a useful, more personalised and enjoyable tool and not a time consuming nuisance of dubious educational value but which earns £2,100 per partner per year for the practice coffers. Only 40% of doctors thought that postgraduate education was a catalyst for change. They were more readily influenced by contract related issues which affected income such as computerisation and fundholding. It is important to overcome some of the prejudices surrounding C.M.E. and help doctors realise the potential of postgraduate education. By giving them ownership, this will perhaps make education a more effective catalyst for change.

3. Quality of Care

Quality is a central issue in health care at present but it is difficult to define and measure.

Calman (1992) used a definition which encapsulated some important aspects.

> "Quality is a concept which describes in both qualitative and quantitative terms the level of care or services provided. Quality as a concept therefore has two components. The first is quantitative and measurable, the second is qualitative, though assessable, and associated with value judgements. Quality is a relative and not an absolute concept."

Thus quality is a multidimensional issue which comprises knowledge, competence, professional standards, attitudes and behaviour, managerial functions, teaching, research and audit - all of which are embraced by C.M.E. In terms of general practice, the issues of quality of care impinge on the patients, the practice team and resources. The changes found in this study such as alteration in prescribing, advice, referrals, examination techniques, protocols and appointment systems are closely related to patient care and must have altered the quality of that care.

Quality of care is difficult to measure and must be compared with a similar activity or the same activity at another time. The quantitative effect of change on quality of care in terms of number of referrals and prescribing costs was beyond the scope of this study. What has been

shown is that C.M.E. causes changes which affect patient care. The overall level of change achieved is small with 39% changing personally and 7.5% at a practice level despite the fact that the potential impact of C.M.E. on patient care is great. If areas which require improvement in quality of care are identified first and if C.M.E. is seen by doctors as a means to facilitate these improvements then perhaps this potential can be realised.

The Future

While C.M.E. may appear to have altered since the 1990 Contract the changes are superficial. Beneath the new terminology lurk the old problems of lack of training for providers, prevalence of lecture style teaching and the reluctance of doctors to participate in active learning.

This study has shown that the Government is getting poor return on their investment in terms of level of change and quality of care. Even knowledge gain could be improved. As Berwick (1992) pointed out, in the pursuit of quality, processes of learning are essential and doctors will need to enhance their sense of the need for overall improvement in quality of care.

Summative assessment has been accepted as a measurement of competence at the end of vocational training. It is only a matter of time until doctors are asked to undergo, at regular intervals, periodic accreditation. C.M.E. would be an ideal component of this process but it is inadequate in its present form.

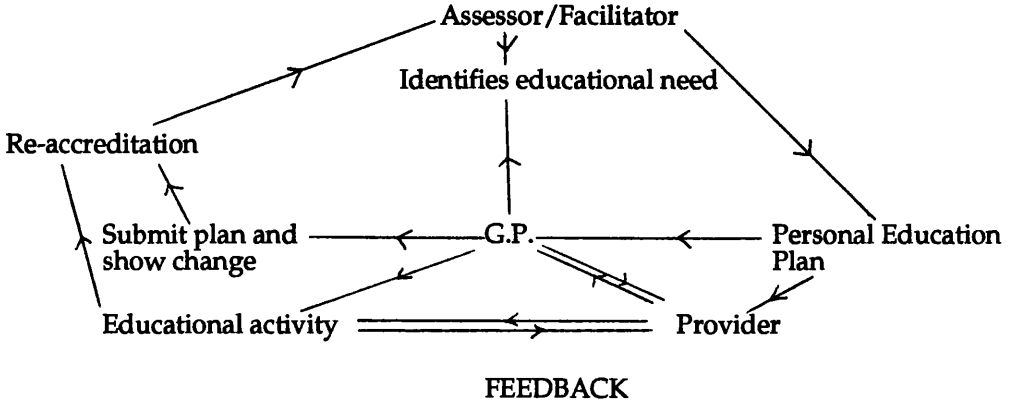
This study has shown that effective C.M.E. must be relevant, convenient in time and place, well presented and interesting. It should include self

assessment and encourage active participation of those attending. Most importantly it should be individualised and the doctor should have a sense of ownership of the educational package and be able to identify areas in his work which have been influenced by this learning process.

In order to encompass these attributes doctors should be encouraged to identify ways in which they wish to improve their practice or areas which they feel would benefit from change. By adopting this strategy they can identify ways of facilitating this by finding the most useful educational input and thus develop their own personal education plan.

A network of assessors/facilitators should be developed to assist doctors in identifying the educational needs either at a personal or at a practice level and help them develop this educational plan.

The course providers would then have an advisory role in directing the doctors to the most appropriate educational activity as well as their role of organising and monitoring the quality of courses. Self assessment, both pre and post course, would be an essential step and doctors could either go on to supplementary courses or, armed with new information, proceed to initiate change.



Re-accreditation is already the norm in a number of countries but they are still struggling to make the educational component effective. If the educational cycle above is put in place first and is accepted by the G.P.'s then accreditation will be easy to slot in and will have been developed by the profession rather than imposed by the Government. Whatever the future for re-accreditation this education cycle should go a long way to improving the effectiveness of C.M.E., its impact on patient care and enhance the personal and professional development of general practitioners.

SUMMARY

1. Continuing medical education for general practitioners remains haphazard. Attendance at courses does improve knowledge but this gain could be better. In its current form it has little impact on change and ultimately on patient care.

2. Continuing medical education will be a component of re-accreditation.

3. There should be a development of a network of assessor/facilitators to help doctors identify their educational needs and assist in planning their personal educational plans.

4. Course providers should be general practitioners with a well defined remit, protected time, proper funding and secretarial support. They should be trained in educational techniques and learning styles and involved in pre and post course assessment and be responsible for quality control of courses.

5. Education should be active rather than passive.

6. Programmes should be planned to be convenient in time and place remembering the needs of the more isolated and single-handed doctors.

7. There should be fewer courses, more relevant to day to day general practice with the abolition of the categories of Disease Management, Health Promotion and Service Management.

8. There should be development of practice based learning, distance learning, modular programmes and personal education plans giving the doctor ownership of his own personal development.

APPENDIX 1

ONE DAY MEETINGS (2 Sessions) : JANUARY - MARCH 1990

Daily course fee : £30.

Daily contribution to coffees and lunch : £2.50.

All meetings will be held at the Western Postgraduate Centre, Lancaster House, 5 Lancaster Crescent, Glasgow. G12 (Tel: 041-357 2615).

The meetings will commence at 9.30 a.m. and finish at 4.00 p.m.

Please indicate which of the courses below you wish to attend BY NUMBERING IN ORDER OF PREFERENCE. If lunch is required please tick appropriate box.

		No.	Lunch
ASTHMA	10th January 1990		
CARDIOLOGY	12th January 1990		
ENDOCRINOLOGY	17th January 1990		
HYPERTENSION	31st January 1990		
CARDIOLOGY	7th February 1990		
GASTROENTEROLOGY	13th February 1990		
MULTIPLE RISK FACTOR MANAGEMENT	14th February 1990		
VIROLOGY SERVICES IN GENERAL PRACTICE	23rd February 1990		
COMPUTER IMPLICATIONS OF NEW CONTRACT	27th February 1900		
CHRONIC RESPIRATORY DISEASE IN PRACTICE	28th February 1990		
DIABETES MELLITUS	7th March 1990		
RHEUMATOLOGY	9th March 1990		
DERMATOLOGY	13th March 1990		
MEDICINE and THERAPEUTICS	14th March 1990		
PALLIATIVE MEDICINE	27th March 1990		
INFECTIOUS DISEASES	28th March 1990		
STROKE AND REHABILITATION	29th March 1990		
DERMATOLOGY	30th March 1990		

NAME _____

ADDRESS _____

_____

Tel No. _____ SIGNATURE _____

PLEASE RETURN THIS FORM WITH THE APPROPRIATE FEE to:

Ms. SANDRA LYALL
ADMINISTRATIVE ASSISTANT
DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION
UNIVERSITY OF GLASGOW. G12 8QQ.
(Tel: 041-339 8855, Ext. 5275).

CHEQUES should be made payable to UNIVERSITY OF GLASGOW.

ON RECEIPT OF APPLICATION FORM and FEE, YOUR ACCEPTANCE WILL BE CONFIRMED AND A PROGRAMME FOR THE APPROPRIATE DAY WILL BE SENT TO YOU.

APPENDIX 2

CONTINUING MEDICAL EDUCATION.

SECTION 1. DEMOGRAPHIC INFORMATION.

1. SEX - Male / female (please circle)

2. MARITAL STATUS - Married / Single / Widowed / Divorced

3. AGE -

4. YEAR OF GRADUATION -

5. TYPE OF PRACTICE - Urban / Rural / Mixed (please circle)

6. Personal Practice Committment - Full time i.e. 26 hrs. ___
   (Please tick) Part time i.e.19-26 hrs ___
   Part time i.e.13-19hrs ___

7. No. of partners (including yourself) -Full time i.e. 26 hrs. ___
   (Please tick) Part time i.e. 19-26 hrs ___
   Part time i.e. 13-19 hrs ___
   Assistant ___

8. Are you Vocationally trained ? Yes / No (please circle)

SECTION 2. PRACTICE ARRANGEMENTS FOR POSTGRADUATE EDUCATION.

1. Are you entitled to study leave under the terms of your practice agreement ? Yes / No

2. If YES, is this arrangement longstanding i.e. pre April 1990 ? Yes / No

3. How much annual study leave are you allowed ?

4. Do you require a locum when attending a course during a working day ? Always / Never / Occasionally

5. Who bears the locum cost ? Personal responsibility ___
   Practice responsibility ___

6. What is the average cost of the locum to the practice / partner/ year ?

SECTION 3. PREVIOUS EDUCATIONAL EXPERIENCE.

1. Please estimate the average number of educational sessions attended by you each year **pre 1989** ?

2. What format did these sessions have ? (please tick)

   Formal lecture (& discussion only) _____

   Small group discussions _____

   Mixture of above _____

   Distance Learning _____

   Practical Work _____

   Practice based Learning _____

   Other (please specify)

3. Which of the following statements most apply to you **pre 1989 ?**
   (Please tick as many as are appropriate to you.)

   a) I only attended meetings held outwith surgery hours. _____

   b) I used study leave to attend meetings. _____

   c) I only attended meetings held on my half day. _____

   d) I attended meetings irrespective of time of day as long as the subject interested me. _____

   e) I only attended drug company sponsored meetings _____

4. What motivated you to go to educational meetings **pre 1989 ?**

SECTION 4. COURSE PREFERENCES.

1. Please indicate your preferred type of teaching by grading each item below. (Please circle - 1 = least preferred : 5 = most preferred)

Formal lectures	1	2	3	4	5
Small group work	1	2	3	4	5
Practical Work	1	2	3	4	5
Mixture of above	1	2	3	4	5
Distance Learning	1	2	3	4	5
Practice based Learning	1	2	3	4	5

2. When choosing a course, which of the following factors are important in influencing your decision. Please grade each item below. (Please circle - 1 = not important ; 2 = quite important; 3 = important ; 4 = very important; 5 = most important.)

a) Content of the course	1	2	3	4	5
b) Location of course venue	1	2	3	4	5
c) Type of venue used	1	2	3	4	5
d) Accreditation granted for PGEA	1	2	3	4	5
e) Identity of the speakers	1	2	3	4	5
f) Identity of the organiser	1	2	3	4	5
g) Time of day course is held	1	2	3	4	5
h) Day of the week course is held	1	2	3	4	5
i) Potential benefit to practice	1	2	3	4	5
j) Personal interest in topic	1	2	3	4	5
k) Cost of the meeting	1	2	3	4	5

SECTION 4 .COURSE PREFERENCES contd.,

3. If item g) on the previous page was important to you i.e. scored 2-5, please **rank in order** which time of day is most suitable to you. **(1 = most suitable ; 7 = least suitable)**

   Half day session (currently 2 1/2 hours or more) in morning _____

   Half day session (currently 2 1/2 hours or more) in afternoon _____

   Full day weekday meeting (i.e. 2 sessions) _____

   Full day week end meeting (i.e. 2 sessions) _____

   Lunch time meeting _____

   Evening meeting _____

   Meetings of 2-3 days in a row _____

4. If item H) on the previous page was important to you (i.e. scored 2-5) please state which days of the week are most suitable.

   Monday a.m. _____ p.m. _____

   Tuesday a.m. _____ p.m. _____

   Wednesday a.m. _____ p.m. _____

   Thursday a.m. _____ p.m. _____

   Friday a.m. _____ p.m. _____

   Saturday a.m. _____ p.m. _____

   Sunday a.m. _____ p.m. _____

SECTION 5. VIEWS ON PGEA.

1. Pre April 1990, did you attend postgraduate meetings ?
   Regularly / Infrequently / Never

2. Post April 1990 - Indicate which of the following statements most applies to you (please tick)

   a) I intend to do 10 sessions each year ____

   b) I intend to do as many each year as I can but no more than I need to qualify for PGEA ____

   c) I intend to do more than 10 sessions each year if the subjects are of interest to me. ____

   d) I do not intend to participate in postgraduate education. ____

3. Have you been to any postgraduate meetings since April 1990 ? Yes / No

4. If **YES**, do you feel that they have in any way influenced your clinical practice ? Yes / No

   If **YES**, please answer No. 5 and 6 . If **NO**, go to No. 7.

5. If **YES**, what areas did these courses cover ?

6. In what ways have they influenced you ?

7. If **NO**, do you think that they should have been able to influence you ?

SECTION 5. VIEWS ON PGEA contd.,

8. What are your views on the new postgraduate education requirements for General Practitioners ?

9. In whay way would you change the current arrangements to increase the value of the courses to you ?

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

APPENDIX 3

UNIVERSITY
of
GLASGOW

19th February 1991.

Dear

The introduction of the new contract in 1990 brought about many changes in general practice. One of these areas of change was in Continuing Medical Education.

I am currently involved in a research project for a Ph.D. thesis which attempts to assess the effect of this change on general practice.

In order to do this, I would be most grateful if you could complete the enclosed questionnaire. It will take only 10 minutes of your time and will give valuable information for the planning of future postgraduate medical education.

Thank you for your co-operation.

Yours sincerely,

MOYA H. KELLY
LECTURER IN GENERAL PRACTICE.

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 4

UNIVERSITY
of
GLASGOW

Dear

We are currently evaluating the courses organised by the West of Scotland Postgraduate Scheme to ensure that the education provided is of the highest quality.

We are therefore gathering information on the background and motivation of our course providers on whom the scheme depends.

It is therefore very important that we receive as much information as possible and I would be very grateful if you would complete the enclosed short questionnaire so that we can continue to plan for the future.

Thank you.

Yours sincerely,

M.H. KELLY

T.S. MURRAY.

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 5

COURSE PROVIDER'S QUESTIONNAIRE.

SECTION 1 - DEMOGRAPHIC INFORMATION.

NAME :

ADDRESS :

DESIGNATION (Plesae tick) -

- General practitioner _____
- H ospital consultant _____
- Pharmaceutical Industry Employee _____
- Commercial Company _____
- Health Board Administrator _____
- Other

Did you organise courses for G.P.'s before 1990 ? **YES / NO**

Have you had any training for organising courses ? **YES / NO**

If **yes,** what was it ?

Have you had any teaching experience ? **YES / NO**

If yes, What was it ? (Please tick where appropriate)

- Undergraduate students _____
- Trainees _____
- Postgraduate students _____
- Tutor _____
- Associate Adviser _____
- Other

SECTION 2 - ORGANISATION OF COURSES.

Has the way in which you organise courses changed since the introduction of the new arrangements for postgraduate education for general practitioners ? **YES / NO**

If **yes,** in what way(s) ?

What courses have you organised for G.P.'s from **1.4.91-31.3.92** ?
PLEASE LIST. 1.

2.

3.

4.

5.

Have these been for the West of Scotland scheme ? **YES / NO / SOME**

What influenced your choice of subject ? (Please tick where appropriate)

Specialist in the area	_____
Interest in the topic	_____
Response to need	_____
Personal lack of knowledge	_____
Invited to organise course	_____
Other	

What type of speaker(s) do you normally choose ?
(Please tick where appropriate)

G.P.	_____
Hospital	_____
Combination of above	_____
Other	

What influences you choice of speaker ? (Please tick where appropriate)

Expert in topic	_____
Recommended	_____
Known to be a good speaker	_____
Other	

What is the usual format of your meetings ?(Please tick where appropriate)

Lecture & Discussion	_____
Small groups	_____
Mixture of above	_____
Practical	_____
Distance Learning	_____
Other	

Do you have a preference for organising meetings of a particular length ?
YES / NO

If **yes,** state which you prefer -

Lunch time	____	One week	____
Half day (21/2 hrs)	____	Evening	____
Full Day	____	Several days	____
Other			

SECTION 3 - CHOICE OF VENUE

Which venue do you normally choose ? (Please tick where appropriate)

- Postgraduate Centre ____
- Lecture theatre ____
- Hotel ____
- Health Centre ____
- Other

Reason behind choice of venue ? (Please tick where appropriate)

- Proximity ____
- Good audiovisual facilities ____
- Comfort ____
- Novelty ____
- Purpose built ____
- Other

SECTION 4 - PRE-COURSE PREPARATION.

What instructions do you routinely give to speakers ?
(Please tick as many as appropriate)

- Subject content ____
- Timing ____
- Type of audience ____
- Nos. attending ____
- Audiovisual aids available ____
- Full programme details ____
- Aims and objectives ____
- Other

Do you use pre-course material ? **YES / NO**

If **yes,** who prepares it ?

If **no,** do you think there is any value in this ?

Do you use post course assessment / feedback ? **YES / NO**

If **yes,** who prepares it ?

How do you use this information ?

Would a standardised course assessment be of value ? **YES / NO**

If **not** , why not?

SECTION 5 - GENERAL INFORMATION.

Who does your secretarial work for organising courses ?

Are you aware of the criteria for accreditation of courses ? **YES / NO**

What are your reasons for organising courses ?

Do you plan to continue organising courses ? **YES / NO**

Do you think there is enough direction centrally on organising courses ?
YES / NO / DON'T KNOW

Do you think course providers should have special training in this area ?
YES / NO

Would you be interested in taking part in such a course ? **YES / NO**

APPENDIX 6

UNIVERSITY
of
GLASGOW

Dear

I am currently interested in looking at general practitioners' views on postgraduate education. I would very much value the views of doctors who are not claiming their postgraduate education allowance. I would therefore be very grateful if you could take a few minutes to complete this questionnaire. The questionnaire has a code number on the back purely to enable a second mailing to be sent out to non-responders. All information will be treated in the strictest confidence.

I hope that you will feel able to help in this study.

Thank you.

Yours sincerely,

MOYA H. KELLY.

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 7

NON CLAIMERS QUESTIONNAIRE

DEMOGRAPHIC INFORMATION

1. Sex - M / F (Please circle)

2. Year of Graduation _____

3. Type of Practice - Urban : Rural : Mixed (Please circle)

4. No. of partners (including your self) Full-time _____

   Part-time (19-24) _____

   (15-19) _____

   Assistant

   Trainee

(Please circle)

5. Are you a training practice? Yes / No

6. Are you a member of the RCGP? Yes / No

7. Are you vocationally trained? Yes / No

8. Did you attend any educational meetings before 1989? Yes / No

9. If Yes, did you find these useful?
   Yes
   No
   Sometimes
   Don't know

10. Have you attended any educational meetings since the new 1990 contract changes?
    Yes
    No
    Don't know

    (If Yes, go to Q.12, if No, go to Q.11)

11. If No, why not?

12. Do you intend to go to enough meetings to claim your PGEA in the future? Yes / No

13. Do you attend meetings which are not PGEA approved? Yes / No

14. Why have you not attended enough courses to claim your PGEA?

15. How do you currently keep up to date?

16. Do your partners claim their PGEA? Yes / No

17. Do you think continuing medical education is important? Yes / No

18. What local facilities are there for education? (You may tick more than one)

a) Local medical groups _____
b) Journal Clubs _____
c) Local postgraduate centre _____
d) Local meetings in health care _____
e) Don't know _____
f) No local activities _____
g) Other _____

19. Which of the following contract changes have you undertaken in your practice? (You may tick more than one)

a) Elderly screening _____
b) New patient registration medical _____
c) Minor surgery _____
d) Health Promotion clinics _____
e) Cervical Cytology recall _____
f) Childhood immunisation _____
g) Paediatric surveillance _____

20. In what way would the regulations for postgraduate education allowance have to change for you to participate in continuing medical education?

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

APPENDIX 8

UNIVERSITY
of
GLASGOW

Dear

Re: EVALUATION OF POSTGRADUATE EDUCATION.

Your course "Paediatrics" has been selected to participate in the above study. One of your speakers has been approached to supply suitable questions.

I will attend the meeting to administer the Multiple Choice questions at the beginning and 5 minutes from the end of the session along with a course assessment sheet. You will therefore not be involved in any extra workload. If you have any queries please contact the number given below.

I look forward to seeing you at the meeting.

Yours sincerely,

MOYA H. KELLY
LECTURER IN GENERAL PRACTICE.

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 9

UNIVERSITY
of
GLASGOW

Dear

We are currently trying to evaluate the effectiveness of the Postgraduate Education provided for general practitioners by the West of Scotland Scheme. Your course "Paediatrics" which will be held on 2.12.92 has been selected for this study. Our aim is to look at knowledge of G.Ps. before and after attending a course using an MCQ paper.

I would therefore be grateful if you would submit five multiple choice questions of five stems each including the correct answers.

The questions should cover the area which will be included in your teaching during the course and facts which you feel are important for general practitioners to know.

The questions will be given to the general practitioners to complete before the course starts and again directly afterwards. A third set will be sent six weeks later.

I would be grateful if you could return the questions and answers to me in the enclosed stamped addressed envelope by 25.11.92.

Thank you for your co-operation.

Yours sincerely,

MOYA H. KELLY.

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 10

MCQ I

COURSE: UNDERSTANDING FINANCIAL STATEMENTS Date: 13.5.92

CIPHER NO. CATEGORY: S.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. Name the two main financial statements produced by companies and organisations.

a) Cash Flow Statement and Balance Sheet TRUE / FALSE

b) Source and Application of Funds Statement and Profit and Loss Account. TRUE / FALSE

c) Balance Sheet and Profit and Loss Account TRUE / FALSE

d) Income and Expenditure Account and Cash Flow Statement TRUE / FALSE

e) Balance Sheet and Notes to the Accounts TRUE / FALSE

2. The Balance Sheet is:

a) A statement of the organisation's performance over the past year. TRUE / FALSE

b) A summary of the last 10 years trading TRUE / FALSE

c) A statement of the cash received and disbursed during the last year. TRUE / FLASE

d) A statement of the assets and liabilities of the organisation at the period end. TRUE / FALSE

e) A summary of the last three years income and costs TRUE / FALSE

3. The Profit and Loss Account is:

a) A summary of the trading activity of a concern over an accounting period (usually one year). TRUE / FALSE

b) A summary of the last 10 years trading. TRUE / FALSE

c) A statement of the assets and liabilities of the organisation at the period end. TRUE / FALSE

d) A statement of the sources and applications of working capital over an acounting period. TRUE / FALSE

e) A summary of the last three years income and costs TRUE / FALSE

4. Which of the following items is classified as 'Capital' expenditure?

a) Payment of rent TRUE / FALSE

b) Payment of staff salaries TRUE / FALSE

c) Purchase of a building TRUE / FALSE

d) Payment of bank charges TRUE / FALSE

e) Purchase of office supplies TRUE / FALSE

5. Which of the following items is classified as a 'current' asset?

a) Cash at bank TRUE / FALSE

b) Buildings TRUE / FLASE

c) Amounts owed to Inland Revenue TRUE / FALSE

d) Equipment TRUE / FALSE

e) Partner's current acount TRUE / FALSE

APPENDIX 11

MCQ II

COURSE: UNDERSTANDING FINANCIAL STATEMENTS Date: 13.5.92

CIPHER No. CATEGORY: S.M.

Please answer each of the questions by circling True / False.
e.g. 2 + 2 = 5 True / (False.)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. The Balance Sheet is:

a) A summary of the last five years income and costs TRUE / FALSE

b) A statement of the assets and liabilities of the organisation at the period end. TRUE / FALSE

c) A summary of the last 10 years trading TRUE / FALSE

d) A statement of the organisation's performance over the last year. TRUE / FALSE

e) A statement of the cash received and disbursed during the last year. TRUE / FALSE

2. Which of the following items is classified as a 'current' asset?

a) Buildings TRUE / FALSE

b) Partner's current account TRUE / FALSE

c) Equipment TRUE / FALSE

d) Cash at bank TRUE / FALSE

e) Amount owed to Inland Revenue TRUE / FALSE

3. Name the two main financial statements produced by companies and organisations:

a) Balance Sheet and Notes to the Accounts — TRUE / FALSE

b) Balance Sheet and Profit and Loss Account — TRUE / FALSE

c) Cash Flow Statement and Balance Sheet — TRUE / FALSE

d) Income and Expenditure Account and Cash Flow Statement — TRUE / FALSE

e) Source and Application of Funds Statement and Profit and Loss Account. — TRUE / FALSE

4. The Profit and Loss Account is:

a) A summary of the last 5 years trading — TRUE / FALSE

b) A summary of the last 3 years income and costs — TRUE / FALSE

c) A summary of the trading activity of a concern over an accounting period (usually one year) — TRUE / FALSE

d) A statement of the sources and applications of working capital over an accounting period — TRUE / FALSE

e) A statement of the assets and liabilities of the organisation at the period end. — TRUE / FALSE

5. Which of the following items is classified as 'Capital' expenditure?

a) Payment of bank charges — TRUE / FALSE

b) Purchase of office supplies — TRUE / FALSE

c) Payment of rent — TRUE / FALSE

d) Purchase of a building — TRUE / FALSE

e) Payment of staff salaries — TRUE / FALSE

It may be possible to feedback the results to you. Please tick the box if you would be interested in receiving the results.

APPENDIX 12

M.C.Q. I

COURSE: DIAGNOSIS & MANAGEMENT OF CONFUSION IN CANCER PATIENTS

Date: 16.6.92

CIPHER NO: CATEGORY: D.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. The following are usual in acute confusion:

   a) Clouded consciousness — TRUE / FALSE

   b) Poverty of affect — TRUE / FALSE

   c) Restlessness — TRUE / FALSE

   d) Hallucinations — TRUE / FALSE

   e) Sleep disturbance — TRUE / FALSE

2. A 58 year old man with lung cancer presents with confusion, headache and vomiting.

   a) The likely diagnosis is raised intracranial pressure due to cerebral metastases — TRUE / FALSE

   b) CT scan is diagnostic of intracranial tumours in 95% of cases — TRUE / FALSE

   c) Steroids are unlikely to help confusion — TRUE / FALSE

   d) Morphine is contraindicated in raised intracranial pressure — TRUE / FALSE

   e) Raising the end of the bed may help his headache — TRUE / FALSE

3. An elderly frail lady with painful liver metastases is started on oral morphine 10 mg 4 hourly having previously been on a weak opiod (Tylex). She is pain free but drowsy and muddled and experiencing hallucinations. Do you think?

a) The drug should be reduced TRUE / FALSE

b) The drug should be stopped TRUE / FALSE

c) The side effects are likely to persist TRUE / FALSE

d) Dose increments should not exceed 5 mg TRUE / FALSE

e) Side effects are less if Morphine is given subcutaneously TRUE / FALSE

4. An 81 year old lady has been living an unremarkable but supported life in sheltered housing for over 2 years. For about 6 weeks she has been intermittently suspicious, argumentative and holistic accusing the Warden of stealing from her and insisting that she both saw and heard the Warden and other thieves in her room in the middle of the night.

What would be the likeliest diagnosis out of the following possibilities?

a) Dementia TRUE / FALSE

b) Schizophrenia TRUE / FALSE

c) Acute organic confusional state TRUE / FALSE

d) Hypomania TRUE / FALSE

e) Paranoid psychosis TRUE / FALSE

5. A patient with a squamous carcinoma becomes gradually more muddled and sleepy over a six day period. He becomes constipated and develops dyspepsia. He is not on analgesics.

The most likely cause is:

a) Brain secondaries TRUE / FALSE

b) Syndrome of inappropriate anti-diuretic secretion TRUE / FALSE

c) Hypercalcaemia TRUE / FALSE

d) Drug related TRUE / FALSE

e) A urinary tract infection TRUE / FALSE

APPENDIX 13

M.C.Q. II

COURSE: DIAGNOSIS & MANAGEMENT OF CONFUSION IN CANCER PATIENTS

Date: 16.6.92

CIPHER NO: CATEGORY: D.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. The following are usual in acute confusion:

   a) Clouded consciousness — TRUE / FALSE

   b) Poverty of affect — TRUE / FALSE

   c) Restlessness — TRUE / FALSE

   d) Hallucinations — TRUE / FALSE

   e) Sleep disturbance — TRUE / FALSE

2. A 58 year old man with lung cancer presents with confusion, headache and vomiting.

   a) The likely diagnosis is raised intracranial pressure due to cerebral metastases — TRUE / FALSE

   b) CT scan is diagnostic of intracranial tumours in 95% of cases — TRUE / FALSE

   c) Steroids are unlikely to help confusion — TRUE / FALSE

   d) Morphine is contraindicated in raised intracranial pressure — TRUE / FALSE

   e) Raising the end of the bed may help his headache — TRUE / FALSE

3. An elderly frail lady with painful liver metastases is started on oral morphine 10 mg 4 hourly having previously been on a weak opiod (Tylex). She is pain free but drowsy and muddled and experiencing hallucinations. Do you think?

a) The drug should be reduced TRUE / FALSE

b) The drug should be stopped TRUE / FALSE

c) The side effects are likely to persist TRUE / FALSE

d) Dose increments should not exceed 5 mg TRUE / FALSE

e) Side effects are less if Morphine is given subcutaneously TRUE / FALSE

4. An 81 year old lady has been living an unremarkable but supported life in sheltered housing for over 2 years. For about 6 weeks she has been intermittently suspicious, argumentative and holistic accusing the Warden of stealing from her and insisting that she both saw and heard the Warden and other thieves in her room in the middle of the night.

What would be the likeliest diagnosis out of the following possibilities?

a) Dementia TRUE / FALSE

b) Schizophrenia TRUE / FALSE

c) Acute organic confusional state TRUE / FALSE

d) Hypomania TRUE / FALSE

e) Paranoid psychosis TRUE / FALSE

5. A patient with a squamous carcinoma becomes gradually more muddled and sleepy over a six day period. He becomes constipated and develops dyspepsia. He is not on analgesics.

The most likely cause is:

a) Brain secondaries TRUE / FALSE

b) Syndrome of inappropriate anti-diuretic secretion TRUE / FALSE

c) Hypercalcaemia TRUE / FALSE

d) Drug related TRUE / FALSE

e) A urinary tract infection TRUE / FALSE

APPENDIX 14

COURSE ASSESSMENT

COURSE: CATEGORY:

CYPHER No:

1. What did you like most about the course?

2. What did you like least about the course?

3. As a result of attending the course in what way(s), if any, do you intend to implement change -

   a) in the organisation of your practice?

   b) in the way in which you personally practice?

PLEASE READ EACH STATEMENT CAREFULLY AND CIRCLE APPROPRIATELY.

4. I would recommend this course to my colleagues

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

5. The course objective(s) was clearly stated.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

6. The course speakers were enthusiastic.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

7. I learned nothing from the course.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

8. The course speakers were stimulating.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

9. The course speakers were knowledgeable.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

10. The speakers were boring

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

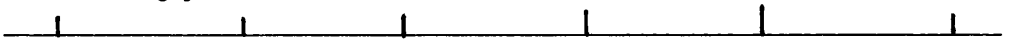
11. The course content was relevant to general practice.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

12. I was not given sufficient opportunity for discussion and questions.

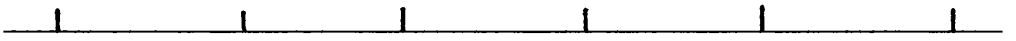
Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

13. I did not enjoy the course.



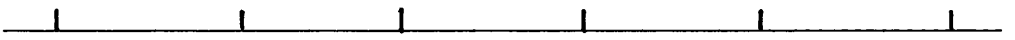
Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

14. The course was interesting.



Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

15. I think I will be a better general practitioner as a result of this course.



Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

Thank you.

APPENDIX 15

UNIVERSITY
of
GLASGOW

Dear

You may remember attending a course entitled "Understanding Financial Statements" on 13.5.92 when multiple choice questions were carried out before and after the course.

As part of the evaluation we are sending out a third multiple choice question paper to all the participants on that course and I would be extremely grateful if you would fill it in and return it in the stamped addressed envelope to me.

Once again, may I emphasise that information is treated in strictest confidence and your name has not been linked to any marks. Only those who indicated they would like some feedback will have any marks sent back to them.

I am very grateful for your co-operation. It is important that we evaluate the education which is being provided and I therefore would ask you to take a few minutes to complete the questionnaire.

Thank you once again for your help.

Yours sincerely,

MOYA H. KELLY

DEPARTMENT OF GENERAL PRACTICE
Woodside Health Centre, Barr Street, Glasgow G20 7LR
Norie-Miller Professor: J. H. Barber MD FRCGP FHKCGP(Hon) FRCP(Glas) DObstRCOG
Titular Professor: T. S. Murray PhD FRCGP FRCP DRCOG *(General Accident Lecturer)*
Senior Lecturer: S. F. Wood MD FRCGP
Telephone: 041-332 8118 *Fax:* 041-353 3402

APPENDIX 16

WEST OF SCOTLAND COMMITTEE FOR POSTGRADUATE MEDICAL EDUCATION

Chairman:
DR ALISTAIR D. BEATTIE

If telephoning, please ask for:

WEST OF SCOTLAND COMMITTEE FOR POSTGRADUATE MEDICAL EDUCATION

PROFESSOR NORMAN MacKAY
Adviser in General Practice:
PROFESSOR T. STUART MURRAY
Secretary to the Committee:
DR FIONA MILLER

Dear

I am currently involved in a project to evaluate postgraduate education for general practitioners. The course on "Asthma" has been selected.

To do this we require your co-operation in making up five multiple choice questions of 5 stems each. The answers should be a mixture of True and False. The questions should deal with information in your talk and include the most important points which you hope GPs will take away from the meeting.

I will administer the questions at the start of the meeting and a second set will be given out using the last 5 minutes of the session.

I would be very grateful if you could send the questions and answers to me by no later than 17.11.92.

If you have any queries or difficulties please contact me at 041-332 8118.

I am very grateful for your help.

Yours sincerely,

MOYA H. KELLY.

The University of Glasgow
Glasgow G12 8QQ
Telephone: 041-339 8855; Fax: 041-330 4526

APPENDIX 17

WEST OF SCOTLAND COMMITTEE FOR POSTGRADUATE MEDICAL EDUCATION

Chairman:
DR ALISTAIR D. BEATTIE

If telephoning, please ask for:

WEST OF SCOTLAND COMMITTEE FOR POSTGRADUATE MEDICAL EDUCATION

PROFESSOR NORMAN MacKAY
Adviser in General Practice:
PROFESSOR T. STUART MURRAY
Secretary to the Committee:
DR FIONA MILLER

Dear

I am currently undertaking a study to evaluate the effectiveness of postgraduate education for general practitioners. Your course on "Asthma" has been randomly selected to participate in this project.

The study aims to look at the knowledge of GPs before and after the course using multiple choice questions prepared by one of your speakers. The MCQs will be administered to the participants by myself shortly before the course starts and again using the last 5 minutes of the meeting.

I will be contacting your speaker directly to request the MCQs and asking them to leave 5 minutes at the end for MCQs and assessment to be done so that the meeting does not run over time. I would be grateful if you would also highlight this time change to your final speaker and chairperson.

This project has been piloted and has caused little extra workload for the organiser or chairperson and no disruption to the meeting. Should you have any queries about this or feel unable to participate please contact me on the following number - 041-332 8118.

Thank you for your co-operation.

Yours sincerely,

MOYA H. KELLY
LECTURER IN GENERAL PRACTICE.

The University of Glasgow
Glasgow G12 8QQ
Telephone: 041-339 8855; Fax: 041-330 4526

APPENDIX 18

9 July 1992

Dr. Moya Kelly
Postgraduate Medical Office
The University of Glasgow
GLASGOW G12 8QQ

Your Ref MHK/lm of 23 June 1992

Dear Moya

I read your letter with a sense of disbelief and a suspicion that it was wrongly dated - that April 1st would have been more appropriate!

I fully understand the objects of the exercise, and the fact that this is an attempt to provide some hard data on the value (or lack of) in postgraduate courses.

I regret to say however that I feel that your project will come up against severe opposition. I have no need to tell you of the hostility towards the imposed requirements of P.G. Education. Sadly we also have increasing unpopularity of the West of Scotland scheme, shown by George's statement of falling subscriptions in his letter of 24 June.

I consider that the imposition of an objective MCQ before and after an education session will be most unpopular, and the feeling will be that the participants "are not there to sit an exam". Indeed, to coin a popular phrase, I feel that this will be to the WoS Scheme "shooting yourself in the foot".

I also consider the use of the cipher number totally unacceptable. It is only necessary to hand out paired questionnaires with the same reference number on the pre- and post- sheets.

These views are of course my own, and as the letter was (perhaps wisely) marked "private and confidential" have not been discussed outside. Would it not be appropriate to discuss this at the next Course Provider's Meeting in the Autumn - to gauge feelings?

I had spoken briefly to George on a personal level about this, so I hope that you do not mind me sending him a copy of this letter.

Yours sincerely

Copy to Dr. George Dyker.

APPENDIX 19

14 July 1992

Dr. M.H. Kelly
West of Scotland Committee
for Post-Graduate Medical Education
University of Glasgow
GLASGOW
G12 8QQ

Dear Dr. Kelly

RE: ASSESSMENT OF COURSES

I am writing to you as course organiser, and Secretary of the Hamilton Medical Society. It is likely that if the regulations for accreditation require 10 people to be present at meetings that our future meetings will not be accredited for P.G.E.A. in any case. Therefore, I will have to decline your request to participate in this form of audit.

With reference to this form of audit, we will be discussing it at the next meeting of the Society. A straw poll of members has indicated that this is not a popular move as it is perceived that any professional lecturing to a meeting should be adequately prepared and doctors as a professional body are mature enough to attend and learn in any case. These are just some of the comments that have been passed to me. It would be useful for me if you could clarify the ultimate aims of the audit.

With best wishes.

APPENDIX 20

Glasgow Local Medical Committee (GENERAL PRACTICE)

6 Lynedoch Crescent
Glasgow G3 6EQ
Telephone: 041-332 8081
Fax: 041-332 6798

Medical Secretary:
Dr Kenneth A Harden FRCGP
Assistant Medical Secretary:
Dr Fiona Marshall

KAH/RB

27 July 1992

Dr Moya Kelly,
University of Glasgow,
Department of General Practice,
Woodside Health Centre,
20 Barr Street,
Glasgow G20 7LR

Dear Moya,

ASSESSMENT OF PGEA COURSES

Your recently proposed questionnaire to assess PGEA courses was recently raised by a member of the Executive Committee.

It was noted that the objective of the questionnaire was to assess the quality of the course and obviously this is very commendable. There was, however, some slight concern that the questionnaires might be identifiable to individual GPs thus raising the possibility of using the data to assess performance of individual GPs. I am sure that this was not your intention and wondered, to avoid any concern of individual GPs, if it would be possible for you to anonymise the questionnaires.

I appreciate that it is essential for them to be paired but wonder if one way round this would be to provide pairs of serially numbered sticky labels so that the GP could stick one label on the first questionnaire at the start of the course, and the second label on the second questionnaire. This would allow the questionnaires to remain anonymous but would allow matching before and after.

I hope that you might consider this option.

Kind regards
Yours sincerely,

Kenneth

Kenneth A Harden,
Medical Secretary

APPENDIX 21

COURSE ASSESSMENT

COURSE: CATEGORY:

1. What motivated you to attend this course?

2. What were your reasons for attending this meeting?
(You may tick more than one answer)

a) To gain sessions for PGEA.

b) Genuine interest in topic

c) I know little about the topic and wanted to learn more

d) To meet colleagues

e) To use the information gained to change my practice

f) I recognise this areas as a gap in my knowledge and felt this course would fill an educational need

g) I feel knowledgeable about this topic but wanted an update

h) Don't know

i) Other

3. As a result of attending the course in what way(s), if any, do you intend to implement change -

a) in the organisation of your practice? (Please be specific)

b) in the way in which you personally practice? (Please be specific)

PLEASE READ EACH STATEMENT CAREFULLY AND CIRCLE APPROPRIATELY.

4. I would recommend this course to my colleagues

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

5. The course objective(s) was clearly stated.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

6. The course speakers were enthusiastic.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

7. I learned nothing from the course.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

8. The course speakers were stimulating.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

9. The course speakers were knowledgeable.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

10. The speakers were boring

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

11. The course content was relevant to general practice.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

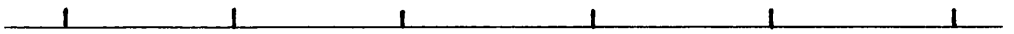
12. I was not given sufficient opportunity for discussion and questions.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

13. I did not enjoy the course.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

14. The course was interesting.



Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

15. I think I will be a better general practitioner as a result of this course.

Strongly Agree	Agree	Tend to Agree	Tend to Disagree	Disagree	Strongly Disagree

Thank you.

APPENDIX 22

NAME: Tel No:

COURSE: CATEGORY:

I am currently carrying out a telephone follow-up on the course you attended a few weeks ago.

1. As a result of this course have you, in the last few weeks, altered anything you do in the way you practice?

   a) If yes, please specify.

   b) Would you have made this change anyway without going to the course?

   c) Do you intend to maintain this change?

   d) Have you shared this information with your partner?

2. a) If no, do you intend, in the future, to alter your personal practice?

   b) Was your lack of change, a fault of the course or were there other obstacles to change?

3. As a result of this course have you, in the last few weeks, altered anything in the practice itself?

   a) If yes, please specificy

   b) Would you have made these changes without going to the course?

c) Have other team members been involved in this change?

d) Will this change be maintained?

e) Are your partners receptive to change?

4. a) Are you intending to implement future changes for the practice?

b) If no, was this a fault of the course or were there other obstacles to change?

5. How do these responses compare to your feelings directly after the meeting?

6. Would you say that new ideas were welcomed in your practice?

7. If a member of the practice has an idea for change how does it progress?

8. In general terms which of the following act as a catalyst for change in your practice?

1) 1990 contract

2) An individual progressive partner

3) Postgraduate education

4) Vocational training in practice

5) Other

APPENDIX 23

MCQ I

IDENTIFICATION: Date: 11.11.92

COURSE: RUNNING A DIABETIC CLINIC CATEGORY: H.P.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. The following systems of diabetic management have been shown to produce adequate diabetic care in general practice.

   a) Opportunistic consultation TRUE / FALSE

   b) Practice clinic with annual hospital review TRUE / FALSE

   c) Dedicated practice clinic with separate practice annual review. TRUE / FALSE

   d) Continuing care by own G.P. with separate practice annual review. TRUE / FALSE

   e) Continuing care by own G.P. with annual hospital review TRUE / FALSE

2. The following must be undertaken annually:

   a) Retinopathy screening TRUE / FALSE

   b) Blood pressure management TRUE / FALSE

   c) Serum cholesterol measurement TRUE / FALSE

   d) Neuropathy screening TRUE / FALSE

   e) Urea and creatinine TRUE / FALSE

3. Comparative studies in illness in travellers has shown some groups to be more at risk than others. These higher risk groups include:

   a) Winter travellers TRUE / FALSE

   b) Those aged 40-49 years TRUE / FALSE

   c) Adventure travellers TRUE / FALSE

   d) Ethnic minority travellers TRUE / FALSE

   e) Business travellers TRUE / FALSE

4. The following are common causes of death in patients with N.I.D.D.M.:

a) Diabetic renal failure TRUE / FALSE

b) Carcinoma of pancreas TRUE / FALSE

c) Ischaemic heart disease TRUE / FALSE

d) Diabetic ketoacidosis TRUE / FALSE

e) Cerebrovascular Disease TRUE / FALSE

5. In retinopathy screening the following are true:

a) Visual acuity and fundoscopy must be done on each occasion TRUE / FALSE

b) Mydriatics frequently precipitate glaucoma TRUE / FALSE

c) If the patient is driving mydriatics can be omitted TRUE / FALSE

d) Proliferative or pre-proliferative retinopathy progresses slowly TRUE / FALSE

e) Macular hard exudates do not significantly threaten eyesight TRUE / FALSE

6. In many foreign countries water-borne disease is common. There is virtually no risk of infection if water is:

a) boiled TRUE / FALSE

b) frozen TRUE / FALSE

c) carbonated TRUE / FALSE

d) sterilised TRUE / FALSE

e) labelled fit for drinking by the hotel TRUE / FALSE

7. The following patients should be referred to hospital for consideration of insulin therapy:

a) An obese patient with persistent blood sugars over 20 mmol/l. TRUE / FALSE

b) A newly presenting patient aged 67 with modest diabetic symptoms, but a blood glucose of 35 mmol/l. TRUE / FALSE

c) A thin patient of 72 with diabetic symptoms in spite of maximal oral hypoglycaemic therapy TRUE / FALSE

d) A 45 year old patient who is thin, has a blood sugar of 22 mmol/l. and ketonuria+++ TRUE / FALSE

e) A patient with a previous history of hypersomolar non-ketotic diabetic coma (HONK). TRUE / FALSE

APPENDIX 24

MCQ II

IDENTIFICATION: Date: 11.11.92

COURSE: RUNNING A DIABETIC CLINIC CATEGORY: H.P.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. The following are common causes of death in patients with N.I.D.D.M.

   a) Diabetic ketoacidosis TRUE / FALSE

   b) Carcinoma of pancreas TRUE / FALSE

   c) Diabetic renal failure TRUE / FALSE

   d) Cerebrovascular disease TRUE / FALSE

   e) Ischaemic heart disease TRUE / FALSE

2. The following patients should be referred to hospital for consideration of insulin therapy:

   a) A 45 year old patient who is thin, has a blood sugar of 22 mmol/l and ketonuria+++ TRUE / FALSE

   b) A newly presenting patient aged 67 with modest diabetic symptoms, but a blood glucose of 35 mmol/l. TRUE / FALSE

   c) A patient with a previous history of hyperosmolar non-ketotic diabetic coma (HONK) TRUE / FALSE

   d) An obese patient with persistent blood sugars over 20 mmol/l on maximal oral hypoglycaemic therapy TRUE / FALSE

   e) A thin patient of 72 with diabetic symptoms in spite of maximal oral hypoglycaemic therapy. TRUE / FALSE

3. The following must be undertaken annually:

   a) Urea and creatinine TRUE / FALSE

   b) Retinopathy screening TRUE / FALSE

   c) Blood pressure measurement TRUE / FALSE

   d) Neuropathy screening TRUE / FALSE

   e) Serum cholesterol measurement TRUE / FALSE

4. In many foreign countries water-borne disease is comon. There is virtually no risk of infection if water is:

a) boiled TRUE / FALSE

b) frozen TRUE / FALSE

c) carbonated TRUE / FALSE

d) sterilised TRUE / FALSE

e) labelled fit for drinking by the hotel TRUE / FALSE

5. The following systems of diabetic management have been shown to produce adequate diabetic care in general practice:

a) continuing care by own G.P. with annual hospital review TRUE / FALSE

b) dedicated practice clinic with separate practice annual review TRUE / FALSE

c) continuing care by own G.P. with separate practice annual review clinic TRUE / FALSE

d) Opportunistic consultation TRUE / FALSE

e) Practice clinic with hospital review TRUE / FALSE

6. Comparative studies in illness in travellers has shown some groups to be more at risk than others. These higher risk groups include:

a) Winter travellers TRUE / FALSE

b) those aged 40-49 years TRUE / FALSE

c) Adventure travellers TRUE / FALSE

d) Ethnic minority travellers TRUE / FALSE

e) Business travellers TRUE / FALSE

7. In retinopathy screening the following are true:

a) if the patient is driving mydriatics can be omitted TRUE / FALSE

b) Macular hard exudates do not significantly threaten eyesight TRUE / FALSE

c) Visual acuity and fundoscopy must be done on each occasion TRUE / FALSE

d) Proliferative and non-proliferative retinopathy progresses slowly TRUE / FALSE

e) Mydriatics frequently precipitate glaucoma TRUE / FALSE

APPENDIX 25

MCQ I

IDENTIFICATION: Date: 2.12.92

COURSE: PAEDIATRICS CATEGORY: D.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. STRIDOR

a) is an Inspiratory Noise TRUE / FALSE

b) can be caused by allergic reactions TRUE / FALSE

c) can be caused by vocal cord paralysis TRUE / FALSE

d) is always accompanied by swallowing difficulties TRUE / FALSE

e) is loudest when obstruction is worst TRUE / FALSE

2. CROUP (Laryngotracheobronchitis)

a) is usually due to influenza virus infection TRUE / FALSE

b) is associated with loss of ciliary funtion in the trachea TRUE / FALSE

c) is treated with steroids TRUE / FALSE

d) does not require intubation or tracheostomy TRUE / FALSE

e) responds to Nebulized Adrenaline TRUE / FALSE

3. THE FOLLOWING ARE CONTRAINDICATIONS TO HRT:

a) mild hypertension TRUE / FALSE

b) hypertension controlled by anti-hypertensive drugs TRUE / FALSE

c) women with treated breast cancer TRUE / FALSE

d) women with a history of pulmonary embolism TRUE / FALSE

e) women with a history of menstrual migraine TRUE / FALSE

4. IN AN EPILEPTIC FIT:

a) the major side-effect of Diazepam is apnoea — TRUE / FALSE

b) rectal Diazepam works quicker than I.M. — TRUE / FALSE

c) rectal Diazepam suppositories are 70% or 80% effective by 10 minutes — TRUE / FALSE

d) Naloxone will safely reverse respiratory depression caused by Diazepam — TRUE / FALSE

e) Midazolam is effective as an anticonvulsant — TRUE / FALSE

5. TONIC CLONIC SEIZURES IN CHILDREN:

a) are always associated with fever — TRUE / FALSE

b) can be caused by Asthma treatment — TRUE / FALSE

c) the risk of a second fit increases if the first fit lasts longer than 10 minutes — TRUE / FALSE

d) can be caused by hyperglycaemia — TRUE / FALSE

e) may be due to Mesial Temporal Sclerosis — TRUE / FALSE

6. BONE DENSITOMETRY

a) is a research procedure — TRUE / FALSE

b) is important with regard to decision to prescribe HRT — TRUE / FALSE

c) can predict who will suffer fractures reliably — TRUE / FALSE

d) is unjustifiable on expense grounds — TRUE / FALSE

e) can monitor the effect of osteoporosis treatment — TRUE / FALSE

7. DEATHS IN ACUTE ASTHMA

a) are due to overuse of β agonists — TRUE / FALSE

b) are increasing in children in the U.K. — TRUE / FALSE

c) are related in some to a sudden decrease in allergen exposure. — TRUE / FALSE

d) are related to overuse of nebulizers at home — TRUE / FALSE

e) occur more often in children who have very rapid onset attacks. — TRUE / FALSE

APPENDIX 26

MCQ II

IDENTIFICATION: Date: 2.12.92

COURSE: PAEDIATRICS CATEGORY: D.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. TONIC CLINIC SEIZURES IN CHILDREN:

a) can be caused by hyperglycaemia TRUE / FALSE

b) can be caused by Asthma treatment TRUE / FALSE

c) are always associated with fever TRUE / FALSE

d) the risk of a second fit increases if the first fit lasts longer than 10 minutes TRUE / FALSE

e) may be due to Mesial Temporal Sclerosis TRUE / FALSE

2. STRIDOR:

a) is an Expiratory Noise TRUE / FALSE

b) is always accompanied by swallowing difficulties TRUE / FALSE

c) can be caused by vocal cord paralysis TRUE / FALSE

d) is loudest when obstruction is worst TRUE / FALSE

e) can be caused by allergic reactions TRUE / FALSE

3. THE FOLLOWING ARE CONTRAINDICATIONS TO HRT:

a) mild hypertension TRUE / FALSE

b) hypertension controlled by anti-hypertensive therapy TRUE / FALSE

c) women with treated breast cancer TRUE / FALSE

d) women with a history of pulmonary embolism TRUE / FALSE

e) women with a history of menstrual migraine TRUE / FALSE

4. DEATHS IN ACUTE ASTHMA:

a) are decreasing in children in the U.K. TRUE / FALSE

b) occur more often in children who have very rapid onset attacks TRUE / FALSE

c) are related to overuse of Nebulizers at home TRUE / FALSE

d) are due to overuse of B agonists TRUE / FALSE

e) are related in some to a sudden decrease in allergen exposure. TRUE / FALSE

5. IN AN EPILEPTIC FIT:

a) Naloxone will safely reverse respiratory depression caused by Diazepam TRUE / FALSE

b) rectal Diazepam works quicker than I.M. TRUE / FALSE

c) the major side-effect of Diazepam is apnoea TRUE / FALSE

d) Midazolam is effective as an anticonvulsant TRUE / FALSE

e) rectal Diazepam suppositories are 70% or 80% effective by 10 minutes TRUE / FALSE

6. BONE DENSITOMETRY:

a) is a research procedure TRUE / FALSE

b) is important with regard to the decision to prescribe HRT TRUE / FALSE

c) can predict who will suffer fractures reliably TRUE / FALSE

d) is unjustifiable on expense grounds TRUE / FALSE

e) can monitor the effect of osteoporosis treatment TRUE / FALSE

7. CROUP (Laryngotracheobronchitis):

a) responds to Nebulized Adrenaline TRUE / FALSE

b) is treated with steroids TRUE / FALSE

c) does not require intubation or tracheostomy TRUE / FALSE

d) is usually due to influenza virus infection TRUE / FALSE

e) is associated with loss of ciliary function in trachea TRUE / FALSE

APPENDIX 27

MCQ I

IDENTIFICATION: Date: 23.3.93

COURSE: FUNDHOLDING CATEGORY: S.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / False

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. FUNDHOLDER BUDGET - WHAT DOES IT BUY?

a) The fund covers the purchase of Accident and Emergency TRUE / FALSE

b) The fund allows general practitioners to employ paramedical staff. TRUE / FALSE

c) The fund covers the provision of territory referrals TRUE / FALSE

d) A major component of the fund is the prescribing budget TRUE / FALSE

e) The prescribing budget is cash-limited. TRUE / FALSE

2. PURCHASER/PROVIDER RESPONSIBILITIES.

a) Health Boards purchase the bulk of services for Fundholders TRUE / FALSE

b) Health Boards and all general practitioners are co-purchasers TRUE / FALSE

c) Both Health Boards and Fundholders have the responsibility for monitoring contracts. TRUE / FALSE

d) Fundholders have unlimited freedom of referral to Provider Units. TRUE / FALSE

e) Health Boards remain responsible for Directly Managed Units (DMUs). TRUE / FALSE

3. THE FOLLOWING STATEMENTS APPLY TO FATAL ACCIDENT ENQUIRIES:

a) The Enquiry is held in public — TRUE / FALSE

b) The Sheriff issues a determination stating the date, place and cause of death and may make recommendations aimed at preventing a recurrence of the problem — TRUE / FALSE — TRUE / FALSE

c) A written record is made of the evidence — TRUE / FALSE

d) A negligence claim cannot follow if the matter has been aired at a Fatal Accident Enquiry. — TRUE / FALSE

e) A doctor may choose to be legally represented at a Fatal Accident Enquiry. — TRUE / FALSE

4. ON SETTING AND AGREEING CONTRACTS:

a) The Provider Unit sets the value of the contract — TRUE / FALSE

b) The Health Board sets the tariff for prices at OPCs level — TRUE / FALSE

c) There are essentially three main types of contract — TRUE / FALSE

d) The most flexible contracts are cost and volume — TRUE / FALSE

e) Contracts made with NHS Providers are not legally binding — TRUE / FALSE

5. ON DATA COLLECTION:

a) Practices must have one year's information before being accepted for the preparatory year. — TRUE / FLASE

b) Practices must collect data on every outpatient attendance — TRUE / FALSE

c) Operations must be READ coded to allow accurate costing — TRUE / FALSE

d) It is essential to photocopy operation letters — TRUE / FALSE

e) Information collected should specify the hospital attended — TRUE / FALSE

6. CONFIDENTIALITY:

a) In a divorce case it is ethically correct for a GP to prepare a report on the wife's health at the request of the husband's Solicitor. TRUE / FALSE

b) A 14 year old boy can refuse to let his G.P. show his notes to his parents. TRUE / FALSE

c) Under the Access to Health Records Act, patients can see all their G.P. records on request. TRUE / FALSE

d) The duty of maintaining confidentialy of records ceases on the death of the patient. TRUE / FALSE

e) A Court Order for disclosure of records must be complied with TRUE / FALSE

7. KEY ISSUES:

a) The fund is set purely on the basis of historical referral data TRUE / FALSE

b) General Practitioners can insist on out-posted outpatient clinics. TRUE / FALSE

c) Consultants carrying out outreach clinics must be paid at a private sessional rate TRUE / FALSE

d) Practices with list sizes of under 6,000 are debarred from fundholding. TRUE / FALSE

e) Planned savings can be carried forward to the future year's fund. TRUE / FALSE

APPENDIX 28

MCQ II

IDENTIFICATION: Date: 23.3.93

COURSE: FUNDHOLDING CATEGORY: S.M.

Please answer each of the questions by circling True/False
e.g. 2 + 2 = 5 True / (False)

IT IS IMPORTANT TO ANSWER ALL PARTS OF EACH QUESTION.

1. KEY ISSUES:

a) Consultants carrying out outreach clinics must be paid at a private sessional rate. TRUE / FALSE

b) Planned savings can not be carried forward to the future year's fund. TRUE / FALSE

c) The fund is set purely on the basis of historical referral data. TRUE / FALSE

d) General Practitioners can insist on out-posted out-patient clinics. TRUE / FALSE

e) Practices with a list size of under 6,000 are debarred from fundholding. TRUE / FALSE

2. ON SETTING AND AGREEING CONTRACTS:

a) The most flexible contracts are cost and volume TRUE / FALSE

b) The Provider Unit sets the value of the contract TRUE / FALSE

c) Contracts made with the NHS Providers are legally binding. TRUE / FALSE

d) The Health Board sets the tariff for prices at OPCs level. TRUE / FALSE

e) There are essentially three main types of contract TRUE / FALSE

3. CONFIDENTIALITY:

a) A Court Order for disclosure of records must be complied with. TRUE / FALSE

b) In a divorce case it is ethically correct for a GP to prepare a report on the wife's health at the request of the husband's Solicitor. TRUE / FALSE

c) The duty of maintaining confidentiality of records ceases on the death of the patient. TRUE / FALSE

d) Under the Access to Health Records Act, patients can see all their G.P. records on request. TRUE / FALSE

e) A 14 year old boy can refuse to let his G.P. show his notes to his parents. TRUE / FALSE

4. FUDHOLDER BUDGET - WHAT DOES IT BUY?

a) The fund covers the provision of territory referrals TRUE / FALSE

b) The prescribing budget is not cash-limited TRUE / FALSE

c) The fund covers the provision of Accident and Emergency Services. TRUE / FALSE

d) The fund allows General Practitioners to employ paramedical staff. TRUE / FALSE

e) A major component of the fund is the prescribing budget. TRUE / FALSE

5. ON DATA COLLECTION:

a) Information collected should specify the hospital attended. TRUE / FALSE

b) Practices must have one year's information before being accpeted for the preparatory year. TRUE / FALSE

c) It is not essential to photocopy operation letters TRUE / FALSE

d) Practices must collect data on every out-patient attendance. TRUE / FALSE

e) Operations must be READ coded to allow accurate costing. TRUE / FALSE

6. THE FOLLOWING STATEMENTS APPLY TO FATAL ACCIDENT ENQUIRIES:

a) A written record is made of the evidence — TRUE / FALSE

b) The Enquiry is held in public — TRUE / FALSE

c) A negligence claim cannot follow if the matter has been aired at a Fatal Accident Enquiry. — TRUE / FALSE

d) The Sheriff issues a determination stating the date, place and cause of death and may make recommendations aimed at preventing a recurrence of the problem. — TRUE / FALSE

e) A doctor may choose to be legally represented at a Fatal Accident Enquiry. — TRUE / FALSE

7. PURCHASER/PROVIDER RESPONSIBILITIES:

a) Both Health Boards and Fundholders have the responsibility for monitoring contracts. — TRUE / FALSE

b) Fundholders have unlimited freedom of referral to Provider Units. — TRUE / FALSE

c) Health Boards purchase the bulk of services for fundholders. — TRUE / FALSE

d) Health Boards and all General Practitioners are co-purchasers. — TRUE / FALSE

e) Health Boards are not responsible for Directly Managed Units (DMUs). — TRUE / FALSE

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PUBLISHED WORK

Chapter 8

Kelly M H, Murray T S. (1993). Who are the Providers of Medical Education? Medical Education. (In Press)

PAPERS CURRENTLY SUBMITTED

Chapter 4

Kelly M H, Murray T S. Can educational scheme and drug company meetings survive together?

Chapter 7

Kelly M H, Murray T S. General practitioners' views on continuing medical education.

Chapter 9

Kelly M H, Murray T S. Who are not claiming their postgraduate education allowance?

Chapter 11

Kelly M H, Gilmour W H, Murray T S. Will attendance at a course increase doctors' knowledge?

Chapter 12

Kelly M H, Murray T S. Motivation of general practitioners attending postgraduate education.

PAPERS BEING WRITTEN

Chapters 13 and 14

Kelly M H, Murray T S. Does continuing medical education cause change in practice?

Kelly M H, Murray T S. Catalysts for change in general practice.